

EXHIBIT 1

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)

Petition for Forbearance From)
The Current Pricing Rules for)
the Unbundled Network Element)
Platform)

WC Docket No. 03-157

OPPOSITION OF Z-TEL COMMUNICATIONS, INC.

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INTRODUCTION AND SUMMARY

In the guise of a petition for “forbearance,” Verizon resurrects its previously rejected argument that the platform of network elements (“UNE platform”) is equivalent to total service resale and should be priced at resale rates rather than cost-based rates. Verizon also argues that the incumbent, rather than a competitor using the UNE platform, should receive exchange access charges for originating and terminating calls – ostensibly so that the incumbent can make itself “whole” in the face of allegedly below-cost rates for network elements. Verizon’s argument is factually incorrect, and such action by the Commission would be arbitrary and capricious.

Verizon’s petition should be dismissed at the threshold because it falls outside the scope of section 10. Most fundamentally, the petition seeks *amendment* of the Commission’s rules not *forbearance* from those rules: Verizon asks the Commission to *change* its pricing rules so that competitive carriers leasing the UNE platform (a particular combination of network elements) must pay the incumbent according to the pricing rules governing resale, not those governing network elements. That result would violate the nondiscriminatory principles built into sections 251 and 252 of the Communications Act of 1934 (the “Act”), as amended by the

Telecommunications Act of 1996 (the "1996 Act"), as certain purchasers of network elements would pay different rates than other purchasers of the same network elements. Similarly, Verizon seeks to *change* the rules governing receipt of access charges. But amendments must be made either under section 11 of the Act – which authorizes the Commission “to repeal or modify any regulation it determines no longer to be in the public interest” – or in response to a petition for rulemaking pursuant to 47 C.F.R. § 1.401. Verizon should not be allowed to create its own procedural vehicle to circumvent those rules. Clearly, in the present circumstances, Verizon should have waited until the Commission issues its forthcoming notice of proposed rulemaking to review its pricing rules for network elements.

In addition, Verizon’s petition does not even attempt satisfy section 10(d), which prohibits the Commission from forbearing from the provisions of sections 251(c) or 271 until “those requirements have been fully implemented.” Cost-based pricing for network elements is a requirement of section 251(c)(3), which directs network elements to be priced in accordance with the cost-based rule of section 252(d)(1). To the extent that Verizon asks the Commission to replace network element rates (which are based on cost) with resale rates (which are based on the incumbent’s retail rates), Verizon must demonstrate that its forbearance request satisfies the “fully implemented” requirement in section 10(d). Correspondingly, to the extent that Verizon requests double recovery in the form of cost-based rates for leasing network elements *plus* receipt of access charges, that also requires a departure from the cost-based pricing mandate of section 251(c)(3), a departure that cannot be maintained until section 251(c) is “fully implemented.” In addition, both of Verizon’s proposals would allow Verizon to charge UNE platform entrants *more* than entrants that purchase each constituent network element separately, and “nondiscrimination” is a clear requirement of section 251(c).

In this regard, Z-Tel points out the obvious: the FCC has not yet released its *Triennial Review Order*, and that proceeding is the Commission's third effort to write "unbundling" rules that pass muster under appellate review.¹ To even implicitly argue that the Commission has "fully implemented" section 251(c) in the wake of these court reversals is specious. Because Verizon has not made and cannot make the showing required by section 10(d), its petition should be dismissed summarily.

Verizon's petition also fails to meet the requirements of sections 10(a) and 10(b). As this Commission has recognized in the past, allowing rates for network elements to depart from the cost-based statutory standard implemented by TELRIC ("total element long-run incremental cost") would provide incumbents with a significant cost advantage allowing them to "price squeeze" competitors leasing network elements. Both of Verizon's proposals would result in rates for network elements that are higher than the cost to Verizon of providing them. The resale standard is not a cost-based standard, and Verizon favors it only because it believes it will result in prices that are higher than cost-based prices in most cases. Likewise, Verizon's request that the Commission require competitors leasing the UNE platform to forfeit exchange access charges will result in double recovery of the incumbents' costs, which would also make competitors' costs higher than those of the incumbents. That result is inherently discriminatory and clearly violates the requirements of section 10(a), which states that forbearance should not result in "unreasonably discriminatory" charges and practices by carriers such as Verizon.

¹ *Review of Section 251 Unbundling Obligations for Incumbent Local Exchange Carriers and Implementation of the Local Competition Provisions in the Local Telecommunications Act of 1996*, CC Docket Nos. 01-338, 96-98, 98-147 (adopted Feb. 20, 2003) ("*Triennial Review Order*").

Authorizing the incumbents to recover more than the cost to provide network elements by either of these methods clearly would not “enhance competition among providers of telecommunications services” – the standard of section 10(b) for determining whether forbearance would be in the “public interest” within the meaning of section 10(a)(3). Rather, the result would be a price squeeze that would undermine competition. Nor would Verizon’s proposals ensure that rates for the UNE platform are “just and reasonable” or that consumers would be *protected* – the standards of section 10(a)(1) and 10(a)(2). Rather, adoption of Verizon’s proposals would harm consumers, who would no longer enjoy the innovative new service offerings and lower prices resulting from UNE-based competition, and would result in rates that are higher than the cost-based rates that Congress determined are appropriate for network elements.

Finally, Verizon gets the facts wrong when it blames declining investment in the telecommunications industry on competitors leasing the UNE platform. The empirical evidence demonstrates that infrastructure investment has increased since the passage of the 1996 Act and that entry by competitors using the UNE platform in particular has been a catalyst for Bell Operating Company (“BOC”) investment. Further, the capital stock of all telecommunications firms remains above pre-1996 Act levels. In addition, as shown by academic studies, the prices UNE platform entrants like Z-Tel pay are *not* below Verizon’s ARMIS costs. Granting the relief Verizon requests could not reasonably be premised on its erroneous argument that the UNE platform deters investment or that State commissions have incorrectly implemented UNE platform in a way that results in below-cost pricing.

I. VERIZON’S PETITION FOR FORBEARANCE FALLS OUTSIDE THE SCOPE OF SECTION 10 AND SHOULD BE DISMISSED.

Verizon’s petition asks the Commission to “forbear” from applying the pricing rules

governing the leasing of network elements when a competitor leases the UNE platform. In reality, however, Verizon asks the Commission to *amend* its pricing rules. First, Verizon asks the Commission to require incumbents to offer the elements of the platform at the resale rates in section 252(d)(3) rather than the cost-based rates of section 252(d)(1). The language of the petition reveals that Verizon seeks to amend the Commission’s rules: “the Commission can forbear from applying TELRIC to UNE-P and *say that incumbents should receive compensation for UNE-P that is no less than provided under the resale standard...*”² The petition also asks the Commission to “*revise* its pricing rules so that UNE rates are set based on the incumbent’s actual forward-looking costs.”³ Second, Verizon asks the Commission to change “the current regime that entitles UNE-P carriers to collect per-minute access charges from long-distance carriers.”⁴ Verizon apparently seeks a new subsection in the access charge regulations stating that, contrary to the Commission’s prior determination, a competitor providing service by means of the UNE platform is not entitled to collect exchange access charges.⁵ Both of these proposals constitute a request for a change in the Commission’s rules rather than forbearance from their application.

The Commission should reject Verizon’s attempt at “rulemaking by forbearance.” Forbearance quite clearly applies to instances in which an entity asks the Commission to decide that a particular rule or statutory provision would be inappropriate to apply in a specific situation.

² *Verizon Petition* at 20 (emphasis added).

³ *Id.* at 19 (emphasis added).

⁴ *Id.* at 20.

⁵ *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, First Report and Order, 11 FCC Rcd. 15499, 15681-15684 (¶¶ 362-364) (rel. Aug. 8, 1996) (“*First Local Competition Order*”).

In other words, “forbearance” is a statutory form of “waiver,” a process that the Commission has engaged in, by rule, for decades. What Verizon seeks is something quite different – it wants affirmative and definitive “revis[ions]” to the Commission’s TELRIC rules for a particular form of UNE entry (*i.e.*, the UNE platform) that Verizon finds distasteful and inconvenient. Those requests for rule changes simply do not fall within the scope of section 10.

Congress’s purpose in enacting section 10 in the 1996 Act must be understood in light of the “national policy framework” Congress wanted the Commission to implement as well as other statutory provisions. In particular, section 10 must be distinguished from the biennial review provision, section 11, which Congress simultaneously enacted in 1996. Section 11 requires the Commission “to repeal or modify any regulation it determines to be no longer necessary in the public interest.” Section 11 – *not* section 10 – is thus the provision Congress enacted in 1996 to ensure that the Commission *amends* or *repeals* outmoded regulations. As the concurrent enactment of sections 10 and 11 and suggests, forbearing from applying a regulation of general applicability to a particular circumstance is different from repealing or modifying a regulation. By seeking forbearance, a party asks the Commission not to enforce a regulation in certain circumstances. Indeed, the text of section 10(a) provides for forbearance only with respect to a specific “telecommunications carrier or telecommunications service, or class of telecommunications carriers or telecommunications services, in any or some of its or their geographic markets.” Thus, seeking forbearance is similar to seeking a waiver, and different from requesting a wholesale amendment or change to a regulation.

There is no doubt that what Verizon seeks is a general change or “revis[ion]” to the TELRIC regulations. Indeed, the other three BOCs – SBC, Qwest and BellSouth – could not

wait to literally photocopy Verizon’s petition and file a “me, too” petition of their own.⁶

Moreover, the policy arguments advanced by Verizon and the other BOCs are merely a rehash of pleadings the group made in the *Triennial Review* proceeding, where they argued (without success) that the Commission should ban the UNE platform as a method of entry.

The BOC interpretation of section 10 forbearance would permit a carrier unsatisfied with a particular regulatory regime to take unlimited stabs at changing that regime, all of which would force the Commission to issue a decision within one year. That process would ignore the role that the section 11 “biennial review” process puts in place, a statute that requires the Commission to review *all* of its rules every two years. Permitting carriers to force even more mandatory reviews of Commission rules of general applicability would give carriers the unlimited and unfettered ability to take another “bite at the apple” outside of the already strenuous biennial review process whenever they so please.

Moreover, section 10(a) permits specific carriers to request that specific rules or provisions not be applied in certain situations – the Commission does not change those rules, it only “forbears” from enforcing those rules. The rules themselves remain on the books. Section 10 thus does not contemplate forbearance from enforcement of a regulation altogether – that is a repeal. Rather, forbearance is more limited, as its roots in the detariffing disputes of the 1980s and 1990s suggest.⁷ A decision that *no* carrier is subject to a regulatory requirement is a repeal, for which section 11 sets forth the appropriate procedure.

⁶ See Joint Petition of Qwest Corporation, BellSouth Telecommunications, Inc., and SBC Communications Inc. for Expedited Forbearance, *Joint Petition for Forbearance From the Current Pricing Rules for the Unbundled Network Element Platform* (filed July 31, 2003).

⁷ The Commission first spoke of “forbearance” – meaning refraining from enforcing existing legal requirements – in the context of detariffing. The detariffing decisions involved the Commission’s attempt to forbear from requiring nondominant carriers (but not dominant

Consideration of the interplay of the requirements of the Administrative Procedure Act (“APA”) and sections 10 and 11 confirms that section 10 forbearance is similar to the statutory process for a waiver, rather than amendment or repeal. Under the APA, of course, an agency may not amend or repeal a regulation without complying with various procedural requirements, including issuing a notice of proposed rulemaking (“NPRM”). In its biennial review proceedings, accordingly, the Commission issues NPRMs when it determines that a regulation should be repealed or modified. Section 10 does not contemplate the issuance of an NPRM. To the contrary, it provides that a forbearance petition is deemed granted if it is not denied within a year. There is no reason to think that Congress intended section 10 implicitly to repeal the APA’s procedural requirements. Rather, Congress plainly saw forbearance as a form of waiver – and, of course, a waiver may be granted without conformance with the rulemaking requirements of the APA.⁸

carriers) to file tariffs. In holding that the Commission lacked authority to forbear from enforcing the tariffing requirement of section 203 against nondominant carriers, the D.C. Circuit clearly indicated that the issue of “forbearance” concerns the extent of the Commission’s authority to apply specific rules to specific carriers “differently from the way it applies [those rules] to other competing carriers.” *AT&T v. FCC*, 978 F.2d 727, 736 (D.C. Cir. 1992), *aff’d*, *MCI v. AT&T*, 512 U.S. 218 (1994).

⁸ Introducing S. 652 (which later became the 1996 Act) for consideration by the Senate, Senator Pressler explained that the provision in the bill requiring biennial review of Commission rules “establishes a process that will require continuing justification for rules and regulations each 2 years” so that if regulations “don’t make sense, there is a process established to terminate them.” 141 Cong. Rec. S7,881, 7,888 (daily ed. June 7, 1995). Shortly thereafter, Senator Pressler responded to the detariffing decisions by explaining that the forbearance provision in the bill “will make it possible for the FCC immediately to forbear from economically regulating each and every competitive long-distance operator” in response to “[t]he Federal courts” which “have ruled that the FCC cannot deregulate.” *Id.* See also *id.* at 7887 (Statement of Senator Pressler: “[T]he legislation permits the FCC to forbear from regulating carriers when forbearance is in the public interest. This will allow the FCC to reduce the regulatory burdens on a carrier when competition develops, or when the FCC determines that relaxed regulation is in the public interest.”) The legislative

Shortly after its enactment, the Commission recognized the distinction between forbearance, on the one hand, and amendment or repeal, on the other hand, in one of its very first decisions implementing section 10. NYNEX asked the Commission to forbear from applying its separations rules and “adopt instead, for each of the ILEC’s study areas, a single, fixed factor to apportion joint and common costs”⁹ The Commission rejected NYNEX’s request “because the relief requested by NYNEX goes beyond mere forbearance from regulation and instead requests that we substantially amend our Part 36 separations rules.”¹⁰ Similarly, in its 1998 biennial review decision, the Commission denied a request for forbearance by the Independent Telephone and Telecommunications Alliance (“ITTA”) because it was “asking us to change our rules, not to forbear from applying the current rules.”¹¹

Thus, as section 10(a) plainly requires, a forbearance petition should ask the Commission to refrain from enforcing a regulation or statutory provision with respect to a particular carrier or service (or carriers or services), perhaps limited to specific geographic markets. Verizon,

history illustrates the different purposes of sections 10 and 11, and makes clear that forbearance under section 10 is not the same as terminating a regulation under section 11.

⁹ *New England Telephone and Telegraph Company and New York Telephone Company Petition for Forbearance From Jurisdictional Separations Rules*, 12 FCC Rcd. 2308 (¶ 1) (rel. Feb. 19, 1997).

¹⁰ *Id.* at 2313 (¶ 12).

¹¹ *1998 Biennial Regulatory Review – Review of Accounting and Cost Allocation Requirements; United States Telephone Association Petition for Rulemaking; Implementation of the Telecommunications Act of 1996; Petition for Forbearance of the Independent Telephone & Telecommunications Alliance; Accounting Safeguards under the Telecommunications Act of 1996; Petition for Rulemaking to Amend Part 32 of the Commission’s Rules, Uniform System of Accounts for Class A and Class B Telephone Companies, to Adopt the Accounting for Software Required by Statement of Position 98-1*, Report and Order in CC Docket No. 98-81, Order on Reconsideration in CC Docket No. 96-150, Fourth Memorandum Opinion and Order in AAD File No. 98-43, 14 FCC Rcd. 11396, 11409 (¶ 25) (rel. June 30, 1999).

however, wants the Commission to take action of nationwide applicability. Moreover, Verizon makes only oblique references to the regulations that form the basis of its petition for “forbearance,” citing the “current pricing rules for UNE-P”¹² or the “current TELRIC rules,”¹³ rather than specifying the applicable rules or the relevant Commission orders.¹⁴ Instead of seeking forbearance, Verizon asks the Commission to amend its pricing rules so that competitors leasing the platform of network elements pay resale rates and may not collect access charges. As in the *NYNEX* and *ITTA* cases, Verizon’s petition should be dismissed.¹⁵

As a general matter, if a party seeks to change the rules – without waiting for the Commission to invoke section 11 – the proper procedural vehicle is, of course, a petition for rulemaking pursuant to 47 C.F.R. § 1.401. Here, however, as Verizon well knows, the Commission has already announced plans to review its pricing rules for network elements and the industry awaits the Commission’s new unbundling rules in the *Triennial Review* proceeding. The UNE pricing docket will provide Verizon ample opportunity to argue for the rule changes

¹² See, e.g., *Verizon Petition* at 20.

¹³ See, e.g., *id.* at 9.

¹⁴ Importantly, the Commission has found that a party seeking forbearance under section 10 “must support such request with more than broad, unsupported allegations in order for [the Commission] to exercise that statutory authority.” *Hyperion Telecommunications, Inc. Petition Requesting Forbearance; Time Warner Communications Petition for Forbearance; Complete Detariffing for Competitive Access Providers and Competitive Local Exchange Carriers*, Memorandum Opinion and Order and Notice of Proposed Rulemaking, 12 FCC Rcd. 8596 (¶ 21) (1997) (“*Hyperion Order*”). The Commission should immediately dismiss Verizon’s petition because Verizon provides nothing more than “broad, unsupported allegations,” as discussed herein.

¹⁵ To be consistent with *Chenery*, the Commission cannot depart from the policies and interpretation established in *NYNEX* and *ITTA* without public notice and comment. See *SEC v. Chenery Corp.*, 332 U.S. 194 (1947).

described in its petition.¹⁶ Accordingly, Z-Tel is left to assume that Verizon filed its petition in an attempt to require the Commission to act within 12 to 15 months, as section 10(c) requires. Because Verizon's request does not properly fall within the scope of section 10, however, Commission action on it is not subject to this statutory deadline.¹⁷ Nonetheless, the Commission should immediately dismiss Verizon's petition rather than permit Verizon to subject it to a schedule that does not apply.¹⁸

Z-Tel believes that as a response to the spate of BOC forbearance petitions, the Commission should amend section 1.53 of its rules. These amendments may be made without

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- ¹⁶ That proceeding should allow competitors to argue for changes to the UNE pricing regime necessitated by the *Triennial Review* decision. In particular, because the Commission appears to have significantly limited competitors' access to incumbent LEC "advanced" networks, application of the current UNE pricing rules could result in significant and substantial overcharges to competitors. *See* Letter from H. Russell Frisby, CompTel, to Chairman Michael K. Powell, Federal Communications Commission, WC Docket No. 03-157 (filed Aug. 8, 2003) (describing the ILEC network costs that should not be included in TELRIC rates in the wake of the Commission's *Triennial Review* decision, which eliminated CLEC access to fiber loops and fiber-fed loops, in addition to certain other network elements).
- ¹⁷ This is not the first time that Verizon has sought a rule change by filing a petition purportedly for "forbearance" under section 10. *See* Letter from David L. Lawson, Sidley Austin Brown & Wood LLP, to Marlene Dortch, Federal Communications Commission, CC Docket 96-149 (filed July 9, 2003) at 8 (explaining that if Verizon seeks revisions to the Commission's existing interpretation of section 272 in the operations, installation and maintenance rules, it should do so through a notice and comment rulemaking, not a petition for forbearance under section 10).
- ¹⁸ Even if Verizon's petition fell within the scope of section 10, the statutory period would not begin to run until Verizon filed a petition compliant with 47 C.F.R. § 1.53. That rule requires that "any petition requesting that the Commission exercise its forbearance authority under 47 U.S.C. § 160 shall be filed as a separate pleading and shall be identified in the caption of such pleading as a petition for forbearance under 47 U.S.C. 160(c)." *Id.* Verizon's petition does not do so. The statutory period should not begin until Verizon captions its petition with the required reference to 47 U.S.C. 160(c), as it did last year when it sought forbearance from the requirements of the section 271 checklist. *See Petition for Forbearance of the Verizon Telephone Companies Pursuant to 47 U.S.C. § 160(c)*, CC Docket No. 01-338 (filed July 29, 2002).

notice and comment because of its procedural nature, and Z-Tel believes these modifications are necessary in order for the Commission to be consistent with its *NYNEX* and *ITTA* precedent. Just as the Commission previously concluded that parties seeking forbearance must do so in a separate document captioned as a “petition for forbearance under 47 U.S.C. § 160(c),” it should now provide that parties seeking forbearance must provide additional information as well. Specifically, the Commission should require petitioners to specify the rule or statutory provision for which forbearance is sought; the telecommunications carrier (or class of carriers) or telecommunications service (or class of services) for which forbearance is sought; and the geographic markets (by state, LATA, MSA, or density zone, whichever is appropriate) for which forbearance is sought.¹⁹

Z-Tel suggests these modifications to ensure that petitioners provide the information required by section 10(a) and explain why forbearance – rather than amendment or repeal – is

¹⁹ Verizon’s petition also fails to provide any credible factual evidence upon which the Commission can making a finding about whether the requirements of section 10 are satisfied. Verizon attempts to buttress its petition with a 29-page white paper describing recent UNE rate reductions imposed by State commissions, and various analyses of ILEC investment choices prepared by consulting firms and/or Wall Street investment analysts. *See Verizon Petition, Attachment B, The Negative Effect of Applying TELRIC Pricing to the UNE Platform on Facilities-Based Competition and Investment.* Notably missing from this report – and from Verizon’s petition, for that matter – is the presentation of any evidence *from Verizon* demonstrating the effect of the UNE rate reductions on Verizon’s ability to recover its “costs” (however costs are defined, *e.g.*, forward-looking, embedded, etc.) and its decision to invest in new facilities. Surely, Verizon is better able than a Wall Street analyst to provide and analyze such data. Moreover, the investment analyst research on which Verizon relies is not available in the public domain – parties that wish to analyze and respond to this information may only do so by *purchasing* these reports. Verizon has the burden to provide more than “broad, unsupported allegations,” to support its forbearance request under section 10. *See Hyperion Order* at 8596 (¶ 21). Thus, Verizon’s reliance on such paltry evidence – which is not even available to parties who seek to comment on Verizon’s petition – demonstrates that Verizon’s petition is nothing more than a bad-faith effort to bully the Commission into resolving the forthcoming TELRIC docket within 12 to 15 months.

warranted. Commission resources are limited. Requiring petitioners to provide the information required by section 10 would discourage the filing of petitions – like the pending petition – that seek amendment or repeal rather than forbearance.

As a final matter, this entire discussion is purely academic. Under the Constitution, only Congress – not the Commission – may provide the relief Verizon seeks. As explained below, if the Commission were to provide such relief, it effectively would be amending the pricing requirements in sections 251(c)(3) and 252(d) of the Act, and the Commission simply lacks authority to amend the statute. Any attempt to provide that relief by means of forbearance would make crystal clear that the forbearance authority was being implemented in a manner that violates the Presentment Clause, which provides that only Congress may amend a statute. The Supreme Court has held that Congress may not delegate its amendment authority to the President, and it necessarily follows that it may not delegate its amendment authority to an administrative agency.²⁰

II. VERIZON’S PETITION DOES NOT SATISFY THE REQUIREMENTS OF SECTION 10.

A. Verizon’s Petition Does Not Satisfy the Requirements of Section 10(d).

While Verizon at least attempts to satisfy sections 10(a) and 10(b),²¹ it merely states in a

²⁰ In *Clinton v. City of New York*, 524 U.S. 417, 438 (1998), the Court struck down the line-item veto because it authorized the President to amend Acts of Congress. The Court held that a statute may be amended only if the requirements of the Presentment Clause, Art. I, § 7, cl. 2, are strictly followed. Of course, that provision does not permit administrative agencies to amend a statute by providing, for example, that the statutory cost-based pricing rule governing network elements does not apply to certain combinations of network elements.

²¹ As further set forth *infra* at 16-37, that attempt is unsuccessful.

conclusory footnote that section 10(d) does not apply.²² That claim is flatly wrong. Section 10(d) specifically provides that “the Commission may not forbear from applying the requirements of section 251(c) and 271 ... until it determines that those requirements have been fully implemented.” Section 10(d) flatly *prohibits* the Commission from forbearing from any requirement of section 251(c) and 271 without that “full implementation” finding. Such a finding has not been made, and Verizon’s petition dismisses section 10(d) out-of-hand as not applying to its petition. For these reasons alone, Verizon’s petition must be dismissed.

The “requirements” of section 251(c) include cost-based pricing and nondiscrimination. Verizon’s petition asks the Commission to abandon these provisions and therefore implicates section 10(d).

Section 251(c)(3) requires network elements to be provided under the standard of section 252(d)(1), which provides that the price for network elements shall be “based on the cost ... of providing the ... network element.” In other words, one of the “requirements” of section 251(c)(3) is the cost-based standard of section 252(d). Whatever discretion the Commission retains to adjust its pricing rules for network elements therefore does not include departing from a cost-based approach. The resale pricing rule advanced by Verizon – set forth in a separate subsection of 47 U.S.C. § 252(d) that does not apply to network elements (section 252(d)(3)) – is plainly *not* a cost-based standard. It is an avoided-cost standard that starts with the incumbent’s retail rate. Similarly, permitting Verizon to collect access charges on top of the rates it charges competitors for leasing network elements would require a departure from cost-based pricing by permitting double recovery of the cost of providing network elements. Verizon thus necessarily

²² See *Verizon Petition* at 19 n. 38.

seeks forbearance from section 251(c)(3)'s requirement that rates for network element be set according to the cost-based standard of section 251(d)(1).

In addition, section 251(c)(3) specifically requires that an incumbent provide access to network elements on a “nondiscriminatory” basis. Verizon’s proposals would permit it to charge competitors that purchase the UNE platform a *different* and generally *greater* amount for the constituent network elements than competitors that purchase those network elements separately.²³ Because it would let Verizon charge different competitors different prices for the same network elements, the resulting pricing rules would be discriminatory, and, by definition, would implicate section 251(c)(3)'s “requirement” that incumbents provide network elements in a “nondiscriminatory” manner.

Because Verizon seeks a departure from two clear “requirements” of section 251(c) – cost-based pricing and nondiscrimination – Verizon must demonstrate that section 251(c) has been “fully implemented,” as required by section 10(d). It has not done so. Instead, as noted above, Verizon merely contends in a footnote that section 10(d) does not apply. Because that contention is erroneous – since Verizon necessarily seeks a departure from the cost-based pricing requirement of section 251(c)(3) and that provision’s nondiscrimination requirement – its petition may be dismissed for failure to address the requirements of section 10(d).²⁴

²³ That is, if Verizon’s petition were granted, all of the elements comprising the UNE platform would still be available *individually* at TELRIC rates. For example, a competitor could still purchase a UNE loop or a UNE switch port at a TELRIC rate; only if the competitor bought all of the components of the UNE platform would its price increase. The UNE platform competitor would pay more for the combination of elements than entrants that only bought the individual elements separately.

²⁴ In the final sentence of its footnote concerning section 10(d), Verizon suggests that the requirements of that provision are satisfied once a BOC has been granted authorization under section 271. *See Verizon Petition* at 19 n. 38. That is not sufficient to raise the issue. In any event, as explained in our filings in response to the petition Verizon filed last year seeking forbearance from the section 271 checklist, there is no merit to Verizon’s argument.

In addition, Z-Tel finds it inconceivable that the “fully implemented” requirement is met. At the time Verizon filed its petition, *no* set of federal “unbundling rules” under section 251(c)(3) had every been affirmed by the appellate courts. The *Triennial Review* decision, adopted in February 2003 and ostensibly responsive to the latest remand of the Commission’s unbundling rules, has not been released. Moreover, with particular regard to unbundled local switching and UNE platform, the Commission’s *Triennial Review Press Release* indicates that State commissions will, over the next nine months, have a large role in determining whether unbundled local switching and the UNE platform should be available in those States.²⁵ To claim before those State commission implementation proceedings have even begun that section 251(c) has been “fully implemented” with regard to unbundled local switching and the UNE platform is, frankly, nonsense.

B. Verizon’s Petition Also Fails to Meet the Requirements of Sections 10(a) and 10(b).

Section 10(a) requires a showing that, in specific circumstances, a provision: (1) is not necessary to ensure that relevant charges and practices of carriers “are just and reasonable and not unjustly and unreasonably discriminatory,” (2) is not needed “for the protection of

See Opposition of Z-Tel Communications, Inc. to Petition for Forbearance of Verizon, *Petition for Forbearance of the Verizon Telephone Companies Pursuant to 47 U.S.C. § 160(c)*, CC Docket No. 01-338 at 7-11 (filed Sept. 3, 2002). Among other reasons, Verizon’s argument is defective because section 271(d)(6) makes clear beyond dispute that the requirements of the checklist (which incorporate the requirements of section 251(c)) are to remain in effect after a BOC has been authorized to provide long-distance service – and forbearing from those requirements once section 271 authorization has been granted would render that provision a nullity.

²⁵ *See FCC Adopts New Rules For Network Unbundling Obligations of Incumbent Local Phone Carriers*, Press Release, Attachment at 1 (Feb. 20, 2003) (“*Triennial Review Press Release*”). In addition, the Commission has stated that the forthcoming *Triennial Review* order will “clarify” certain aspects of its existing TELRIC pricing rules, notably depreciation and cost of capital. *See id.* Accordingly, it is inappropriate – if not impossible

consumers,” and (3) can be forborne in a way that is otherwise “consistent with the public interest.” Section 10(b) allows the Commission to forbear from enforcing the provision or regulation only “if the Commission determines that such forbearance will promote competition among providers of telecommunications services” Since the incumbents control bottleneck transmission facilities as a result of the decades-long reign as government-sanctioned monopolists, showing that the competition-reinforcing statute that Congress enacted is no longer in the public interest is a heavy burden to carry. Verizon has not come close.

1. Verizon’s request that the UNE platform be priced under the resale standard would result in a price squeeze.

Cost-based pricing in accordance with TELRIC is required to ensure that rates for all network elements, including the UNE platform, are “just and reasonable” and “not unjustly discriminatory.” It is clear that competition will not develop if the incumbents’ incremental cost of using their bottleneck facilities is less than what they charge competitors for access to those facilities. The Antitrust Division of the Department of Justice made that point clearly and concisely in its May 1996 comments urging the Commission to adopt a forward-looking pricing regime:

Pricing above forward looking economic cost also would subject competitors to substantial risks of a “price squeeze.” In competing against entrants to sell services to end users, the real cost of an input (i.e., a network element) for the ILEC will be its forward looking economic cost, and it can set its prices to the consumer accordingly. But for the entrant against whom the ILEC competes, the cost of the elements will be the price charged for it by the ILEC. If this price is above economic cost, the entrant is placed at an artificial competitive disadvantages arising from its dependence on, and the ILEC’s exploitation of, the incumbent’s market power. If the difference between the element’s price and its

– to act on Verizon’s proposal to amend the Commission’s current TELRIC pricing rules when the substance of those rules is uncertain.

true cost is sufficiently large, the ILEC could engineer a “price squeeze” that could be fatal to the entrant’s ability to compete.²⁶

In enacting the TELRIC pricing rules, the Commission endorsed the Antitrust Division’s views.²⁷

Shortly after the Eighth Circuit invalidated TELRIC (and before the Supreme Court approved TELRIC) five former chief economists of the Antitrust Division – four who served in Republican administrations and one who served in a Democratic administration – urged the Commission “to stand by the Commission’s original decision,” noting that “there is a large body of intellectual capital behind that decision.”²⁸ The former chief economists specifically stated that competitive efficiency would not be promoted if “competitive providers ... have to pay more than the incumbent local exchange carriers have to pay for these same inputs.”²⁹

Verizon, on the other hand, asserts that “incumbents should receive compensation for UNE-P that is no less than provided under the resale standard, thereby restoring the balance that Congress originally struck.”³⁰ Verizon’s proposal will instead lead to an *imbalance* between

²⁶ Comments of the United States Department of Justice, CC Docket 96-98 at 31 (May 16, 1996).

²⁷ *First Local Competition Order* at 15821 (¶ 635) (summarizing the Antitrust Division’s views), 15846 (¶ 679) (adopting a methodology designed to establish prices for network elements “based on costs similar to those incurred by the incumbents”).

²⁸ Letter from Bruce Owen *et. al.* to Hon. Reed E. Hundt, CC Docket 96-98 at 2 (Dec. 2, 1996).

²⁹ *Id.* The former chief economists added: “The incumbent local exchange carriers complain that if the prices for unbundled elements and interconnection are based on TELRIC, they will be unable to recover full costs and thus unable to make new investments. The opposite is true. *Id.* They explained that by permitting the ILECs to recover their forward-looking costs, including the cost of capital, the Commission had preserved their incentive to invest, while an historic cost pricing regime would result in inefficiencies that would distort incentives. *See id.*”

³⁰ *Verizon Petition* at 20.

incumbents and new entrants, and it will not ensure that rates for the UNE platform will be just, reasonable and nondiscriminatory in conformance with section 10(a)(1).

As noted above, resale rates under section 252(d)(3) are not cost-based, by definition. Instead, they are indexed to the ILECs' retail rates, which were calculated in response to a number of public policy concerns, such as desire to create cross-subsidies between residence and business customers, and rural and urban customers. As a result, rates for the UNE platform under the resale pricing standard in section 252(d)(3) would not be based on the incumbents' costs. That, in turn, will subject competitors to the price squeeze described by the Antitrust Division when resale rates are higher than cost-based rates. Such an outcome is not just, reasonable and nondiscriminatory.

In addition, adoption of Verizon's proposal would harm consumers by limiting their choices. As far back as the *First Local Competition Order*, the Commission recognized the significant distinction between leasing network elements under section 251(c)(3) and reselling incumbent services under section 251(c)(4). Unlike a reseller, "a carrier offering services solely by recombining unbundled elements can offer services that differ from those offered by an incumbent."³¹ While "[t]he ability of a reseller to differentiate its products based on price is limited ... by the margin between the retail and the wholesale price of the product,"³² network elements priced at TELRIC provide new entrants with an opportunity to compete on price. And "carriers using unbundled elements can bundle services that incumbent LECs sell as distinct tariff offerings, as well as services that incumbent LECs have the capability to offer, but do not,

³¹ *First Local Competition Order* at 15668 (¶ 333).

³² *Id.* (¶ 332).

and can market them as a bundle with a single price.”³³ All of these opportunities – which are only available by leasing network elements and not by reselling the incumbent’s retail services – ultimately benefit consumers.

Verizon’s assertion that competitors using the UNE platform will simply have smaller profit margins under the resale pricing standard misses the fundamental distinction between leasing network elements and reselling the incumbent’s retail services. The 1996 Act permits a competitor to buy network elements at cost-based rates because network elements can be used for the provision of multiple telecommunications services, including those that are not offered by the incumbent. With the purchase of network elements, however, comes the “risk that end-user customers will not demand a sufficient number of services using that facility for the carrier to recoup its cost.”³⁴ With that risk comes the opportunity to invent and put into practice entirely new telecommunications services and offerings. An entrant that relies upon resale does not face that risk but also does not have the commensurate opportunity to develop and deploy new service offerings.

As a result, resale has a role in local entry, but it is a limited one and different than UNE-based entry. The Commission stated that Congress included resale in the 1996 Act because

[S]ome markets may never support new entry through the use of unbundled elements because new entrants seeking to offer services in such markets will be unable to stimulate sufficient demand to recoup their investment in unbundled elements. Accordingly, in these markets carriers will enter through resale of the incumbent LEC services, irrespective of the fact that they could enter exclusively through the use of unbundled elements.³⁵

³³ *Id.* (¶ 333).

³⁴ *Id.* (¶ 334).

³⁵ *Id.* at 15668-15669 (¶ 334).

In other words, entry “exclusively through the use of unbundled elements” and resale are complementary entry strategies. Resale gives a competitor an option to offer service (if it so chooses) in those markets where it is uneconomic to serve a customer through network elements priced at TELRIC.³⁶ Indeed, there are several areas where the UNE platform rate exceeds the resale rate. Interestingly, even in such markets, local entrants (including Z-Tel) oftentimes *still* opt to provide service via the UNE platform rather than obtain service from the incumbent at the lower resale rate. Those companies have clearly decided that the opportunity for innovation and service differentiation offered by the UNE platform outweighs the higher price UNE platform cost in those areas.

The greater market opportunities offered by UNE platform were well-documented by Z-Tel and other entrants in the *Triennial Review* proceeding. Z-Tel utilizes the UNE platform to offer residential and small business customers nationwide new products like its “Personal Voice Assistant” (“PVA”), which combines the functionality of dialtone, e-mail, voicemail, on-line personal organizers, and voice recognition software. Z-Tel is no more a “reseller” of incumbent LEC local telephone service than JetBlue Airways is a “reseller” of airplanes. JetBlue leases

³⁶ Thus, the resale pricing rule was needed because the incumbents repeatedly argued to Congress (and the Commission and the courts) that, in some markets (such as rural residential markets), their retail rates were required by State commissions to be below their costs. In such a circumstance, the resale rule established by Congress would permit competitive entry – while entry by means of network elements would not. As the Commission told the Supreme Court in defending the rule permitting competitors to choose between entry by means of resale and entry by means of the platform of network elements, “the different pricing regimes for these two entry options ensure that resale will be a more attractive entry option than network elements for new entrants seeking to recruit customers who (according to the incumbents) are currently served below cost” Reply Brief for the Federal Petitioners, *FCC v. Iowa Utilities Board*, No. 97-826 at 40 n. 27 (June 1998). The resale pricing rule, in other words, was added by Congress because, as the Commission also told the Supreme Court, “it would be particularly important in the near term” – that is, until universal service reform eliminated the system of implicit subsidies that might lead to below-cost retail rates. *Id.* at 36, 40 n. 27.

most of its commercial jets, yet no one claims that it is not a legitimate “airline.” Operating an airline is more than simply flying planes – it involves schedules, ticketing, gate operations, customer service, and a host of other factors of production. Running a telephone and enhanced messaging software services business is similarly complex and competition over those additional factors of production provides substantial consumer benefits. Verizon’s petition ignores this complexity completely.

Under section 10(a), the Commission does not have that luxury to ignore consumer benefits from this competitive entry. Indeed, consumers’ positive response to competition by new entrants using the UNE platform shatters Verizon’s assertion that “forbearance will affirmatively further consumer interests by encouraging the development of facilities-based competition and by promoting the kind of innovation and meaningful consumer choice that only real, as opposed to merely ‘synthetic,’ competition can produce.”³⁷ More than 12 million consumers currently receive local telephone service from a competitors using the UNE platform.³⁸ Z-Tel's Personal Voice Assistant is available to residential and small business customers in 47 states today, and each and every day, Z-Tel processes approximately 3.8 million messages, transactions and voice-recognition calls through its Z-Node servers. And, a recent J.D. Power and Associates Study found that in the Mid-Atlantic region, MCI – one of the nation’s largest entrants employing the UNE platform – “ranks highest among four carriers,

³⁷ *Verizon Petition* at 20.

³⁸ *See* PACE Coalition, *UNE-P Fact Report: July 2003*.

outperforming its competitors in performance and reliability, billing and image factors.”³⁹

Competition using the UNE platform obviously feels altogether real to consumers. And it is the interest of consumers, not incumbents, that the Commission must consider under section 10(a)(2).

For the foregoing reasons, forbearance from the cost-based pricing standard – and its replacement with the resale pricing standard – is not warranted under the standards of sections 10(a) and 10(b). Verizon’s proposal would place new entrants like Z-Tel, which are both Verizon’s competitors and customers, at a significant cost disadvantage that makes it impossible to compete on price. Such an outcome will not “promote competition among providers of telecommunications services,” as required by section 10(b), and would harm consumers.

2. Verizon’s request that incumbents collect access charges is inconsistent with the law and would result in double recovery.

Verizon’s petition also asks the Commission to forbear from its current rule that carriers using the UNE platform are entitled to collect per-minute access charges from interexchange carriers (“IXCs”) for the provision of exchange access service. Notably, this stale request was rejected by the Commission more than seven years ago, and Verizon’s petition describes no change in conditions that would justify a revision to the Commission’s prior, well-reasoned decision. In fact, Verizon’s forbearance request looks like a petition for reconsideration filed seven years too late. In any event, Verizon’s request fails the standards of sections 10(a) and 10(b) because it would result in double recovery for the incumbents. In addition, contrary to Verizon’s arguments, section 251(g) provides no support for its contention that incumbents should collect access charges when competitors lease the platform of network elements.

³⁹ *J.D. Power and Associates Reports: Household Switching of Local Service Carriers Increases as New Players Enter the Local Telephone Service Market*, Press Release at 2

Finally, Verizon makes no argument whatsoever to show that per-minute access charges are in any way correlated with the amount of money it believes it needs to “recoup” for the ostensibly “below cost” UNE rates it complains about. Per-minute access charges vary throughout Verizon’s territories, and Verizon does not even bother to list what those charges are and what impact transferring those sums directly from competitor’s to Verizon’s pockets would have. Without a linkage between the amounts Verizon claims the current rules cause it to “lose” and Verizon’s proposed remedy (collection of per-minute access charges), Verizon’s request amounts to no more than a request for the Commission to place a surcharge of some unspecified but arbitrary amount upon UNE platform elements. That decision would contravene and undermine the section 252(d) UNE rate-setting process.

a) The Commission has properly rejected the argument that incumbents should receive access charges when competitors lease the UNE platform.

Verizon asserts that “the Commission has not explicitly considered whether its access charge conclusion should apply in the case of the UNE platform”⁴⁰ But the Commission has already found that section 251(c)(3) requires incumbents to provide new entrants with access to network elements so the competitor can provide telecommunications services *including* exchange access.⁴¹ The Commission held that “section 251(c)(3) does not impose restrictions on the ability of requesting carriers ‘to *combine* such elements in order to provide such telecommunications service[s].”⁴² Verizon’s assertion is therefore incorrect: the Commission

(July 15, 2003).

⁴⁰ *Verizon Petition* at 16.

⁴¹ *See First Local Competition Order* at 15679 (¶ 356).

⁴² *Id.*

has considered whether competitors may request combinations of network elements for the provision of exchange access and concluded that they may.

The Commission also has rejected Verizon’s argument that the UNE platform is “regulatory fiction,” that “deprive[s] the incumbent of the access charges it would receive under a standard resale arrangement.”⁴³ To the contrary, the Commission has found that exchange access provided via network elements under section 251(c)(3) is not interchangeable with resale under section 251(c)(4). Rejecting incumbent arguments that competitors using network elements should *pay* exchange access charges, the Commission was “unpersuaded by suggestions that ... provision of competitive service by rebundling the same network elements used by the incumbent LEC to provide access is equivalent to resale of a retail service.”⁴⁴ Leasing network elements, unlike reselling incumbent services, provides competitors with “the flexibility to offer all telecommunications services made possible by using network elements,” including exchange access.⁴⁵ The same reasoning defeats Verizon’s argument that competitors should *forfeit* exchange access charges to the ILEC. Competitive carriers uses the UNE platform to provide a variety of telecommunications services – including exchange access – unlike a reseller, which is limited to the incumbent’s retail offerings. Thus, it is sound regulatory policy to permit such UNE-based entrants to recover the costs of originating and terminating calls for IXCs through exchange access charges.

⁴³ *Verizon Petition* at 16.

⁴⁴ *Access Charge Reform; Price Cap Performance Review for Local Exchange Carriers; Transport Rate Structure and Pricing End User Common Line Charges*, First Report and Order, 12 FCC Rcd. 15982 (¶ 340) (rel. May 16, 1997) (“*Access Charge Reform Order*”).

⁴⁵ *Id.*

In the end, it is Verizon's proposal that creates a "regulatory fiction,"⁴⁶ not the UNE platform. In fact, the UNE platform was entirely contemplated by Congress when it passed section 271. As Z-Tel previously explained,⁴⁷ section 271 requires loops, transport, switching, and signaling – the network elements comprising the UNE platform – to be provided to competitors on an unbundled basis for "the reasonably foreseeable future."⁴⁸ Section 271 was a bargain at the core of the 1996 Act: if BOCs wanted to offer long-distance services, they had to provide access to their *entire local network*, without regard to any "impairment" inquiry. The parity accorded by that deal is logical and was well-known in Congress. The Supreme Court, in fact, relied on Senator Breaux's description of the specific checklist items (including switching) in rejecting Verizon's challenge to the Commission's pricing methodology and unbundling rules.⁴⁹ Senator Breaux, "a leading backer of the Act in the Senate," instructed the BOCs that, "you will not control much of anything," but instead "will have to allow for nondiscriminatory access on an unbundled basis to the network functions and services of the Bell operating companies network that is at least equal in type, quality, and price to the access [a] Bell operating company affords to itself."⁵⁰ Almost immediately after telling the BOCs, "you will not control much of anything," Senator Breaux listed three of the competitive checklist items at issue: "local loop transmission from the central office to the customer's premises, unbundled from local switching or other services; and next, local transport from the trunk side of local

⁴⁶ *Verizon Petition* at 16.

⁴⁷ *See Opposition of Z-Tel Communications, Inc. to Petition for Forbearance of Verizon, Petition for Forbearance of the Verizon Telephone Companies Pursuant to 47 U.S.C. § 160(c)*, CC Docket No. 01-338 at 7-11 (filed Sept. 3, 2002).

⁴⁸ 141 Cong. Rec. S8,469 (daily ed. June 15, 1995) (statement of Sen. Pressler).

⁴⁹ *See Verizon v. FCC*, 535 U.S. 467, 488 (2002) ("*Verizon*").

⁵⁰ *Id.*

exchange carrier switch, unbundled from switching or other services. Finally, local switching unbundled from transport, local loop transmission, or other services.”⁵¹ Those components, listed by Congress in section 271(c)(2)(B)(iv), (v), (vi) and (x) respectively, constitute the key components of the UNE platform. Congress, in fact, cared so much about those requirements that it specifically limited the Commission’s ability to forbear from those items in section 10(d). Verizon is now peddling a “pulp fiction” account of Congress’ mandate that ignores entirely the clear statutory requirements of the section 271 “competitive checklist.”

Verizon appears to persist in arguing that providing network elements on an “unbundled” basis means “physically separated.” That argument was flatly rejected by the Supreme Court. It held that “unbundled” means “priced separately,” and its decision leaves no room for change – the Court noted that “the only definition” for “unbundled” is “to give separate prices for equipment and supporting services.”⁵² In short, the section 271 checklist requires BOCs with authorization to provide long-distance service to provide access to the platform of network elements. Verizon’s attacks on UNE platform are an attack on the statute, not a “regulatory fiction.”

b) Permitting incumbents to receive access charges would harm competition and consumers.

The Commission has already found that allowing incumbents to charge TELRIC-based rates for leasing the UNE platform and recover exchange access charges for calls would constitute double recovery of the incumbents’ costs. Specifically, when competitors using the UNE platform charge IXCs for exchange access, “the incumbent LEC may not assess exchange access charges to such IXCs because the new entrants, rather than the incumbents, will be

⁵¹ 141 Cong. Rec. S8,134, 8,153 (daily ed. June 12, 1995) (statement of Sen. Breaux).

⁵² *AT&T Corp. v. Iowa Utilities Board*, 525 U.S. 366, 394 (1999).

providing exchange access services, and to allow otherwise would permit incumbent LECs to receive compensation in excess of network costs.”⁵³ This is because the TELRIC-based rate for the UNE platform “represents full compensation to the incumbent LEC for the use of the network elements that telecommunications carriers purchase.”⁵⁴ Compensating the incumbents above and beyond the revenue they receive from leasing network elements would thus be “inconsistent with the pricing standard for unbundled elements set forth in section 252(d)(1),”⁵⁵ which requires ILECs to charge rates for network elements based on the “cost ... of providing ... element[s].”

In fact, paying, billing, and collecting intercarrier compensation is an important component of offering facilities-based telecommunications services, and having the responsibility and ability to manage this process gives an entrant the ability to develop and deploy entirely new services. Z-Tel (and, no doubt, other UNE platform entrants) has an extensive intercarrier payment, billing, and collections unit that manages the payment and receipt of these access charges. Once Verizon sells a UNE platform line to Z-Tel, Verizon no longer has to perform those functions – a cost savings that Verizon conveniently ignores in its regulatory

⁵³ *First Local Competition Order* at 15682 (¶ 363, n.772).

⁵⁴ *Id.* at 15864 (¶ 721).

⁵⁵ *Id.* at 15862 (¶ 363, n.772).

pleadings.⁵⁶ Taking on the costs and revenues of exchange access permits an entrant to develop new products and services differentiated from the incumbent. These products and services would not be possible if the entrant were locked-in to the incumbent's access charge regime.

For example, Z-Tel's Personal Voice Assistant permits a customer to place calls utilizing voice-recognition software. All of Z-Tel's PVA voice recognition calls today are routed through Z-Tel's servers in Tampa, Florida; as a result, if a realtor in Silver Spring, Maryland placed a PVA voice-recognition call to the mortgage broker in College Park, Maryland, the call would be routed through Tampa. If Z-Tel provided local service to both the realtor and the mortgage broker, terminating access charges become essentially irrelevant to this product. Z-Tel believes that growing use of these types of new and innovative services are a crucial part of its competitive advantage, which ultimately generates the service innovation benefits that consumers receive from UNE platform entry.

If Verizon's petition were granted, however, Z-Tel would potentially owe Verizon terminating access charges for that call, even though it is a "local" call from the perspective of the realtor and mortgage broker. Such access charges would apply because Z-Tel chose to insert additional and enhanced functionality into POTS by routing voice-recognition calls through Tampa. In other words, Verizon's proposal would punish Z-Tel for offering its enhanced PVA functionality to its customers. If Z-Tel were to remove its PVA voice-recognition service from the equation entirely and simply provide "mere UNE platform service" to the two customers, the call from the realtor to the mortgage broker would be regarded by Verizon as a "local" call and Z-Tel would not owe Verizon per-minute access charges on either end. In other words, Verizon's per-minute access charge proposal would appear to *increase* Z-Tel's cost of doing

⁵⁶ For example, Z-Tel takes on the risk of bad debt in case an interexchange carrier does not

business when Z-Tel provides new and innovative services. Verizon's proposal is, in fact, anti-innovation because it creates an incentive for UNE platform entrants to copy Verizon's local service areas, calling plans and technology. While that might make it easier for Verizon to compete, it is certainly not in the interest of consumers and the public.

Verizon does not really attack the logic of the Commission's prior decisions concluding that the incumbents' would obtain double recovery if they both charged competitors for leasing network elements and collected access charges as well, but instead principally argues that the statutory cost-based standard has been applied erroneously by the Commission and the State commissions. If Verizon feels that it has been "wronged" by the State commissions, it has several avenues available to it, most notably the statutory appeal process in section 252(e)(6). Such appeals are generally heard *de novo*, which would accord Verizon the complete ability to make its case to the federal district court. Notably, Verizon's petition does not discuss Verizon's won-loss record on federal appeals of TELRIC pricing decisions.

Verizon's attached "study" only shows that Verizon seems to be in the midst of a startling "losing streak" with regard to State commission TELRIC decisions. There is a good reason for Verizon's TELRIC losing streak – Verizon has consistently proposed inflated rates for UNEs that bear no relation to the Commission's TELRIC pricing rules. For example, Verizon's proposed rate models invariably include a factor called the "forward-looking-to-current cost factor," or "FLC." The forward-looking-to-current cost factor does precisely what it says: it converts Verizon's "forward-looking" operating costs into "current" operating costs, despite the clear Commission rule that requires that UNE rates be set by reference to "forward-looking" costs. The Maryland Public Service Commission saw through this charade. The Maryland

pay its terminating access bill; Verizon does not take on this cost.

Staff characterized the FLC as “designed to recover Verizon's predetermined costs rather than actual forward-looking costs.” Staff regarded the FLC as a “make-whole” provision that is “based on embedded data” whose purpose is to “maintain operating expenses at current levels,” not forward-looking levels. In its order that eliminated the FLC, the Maryland Commission agreed, finding that Staff's position was “particularly persuasive” and noting that Verizon's factor constituted a “highly speculative adjustment.”⁵⁷

The Maryland Commission also struck several other of Verizon's proposed charges. For instance, Verizon sought to include in UNE rates “marketing expenses” that are “necessary to advertise UNEs to CLECs, and to create brand awareness.”⁵⁸ The Commission found that since Verizon is the only provider of UNEs in Maryland, “Verizon's need for UNE marketing is not apparent.”⁵⁹

It is also important to note that the speculative and inflated FLC factor Verizon habitually proposes affects the rates of virtually *all* UNEs, not simply the UNE platform.⁶⁰ Indeed, state-to-state variations in the price of the UNE loop explain 40 percent of the variability of UNE platform costs among states, according to data published by Commerce Capital Markets.⁶¹ Therefore, if Verizon has a problem with the TELRIC methodology itself, those problems would

⁵⁷ *In the Matter of the Investigation into Rates for Unbundled Network Elements Pursuant to the Telecommunications Act of 1996*, Case No. 8879, Maryland Public Service Commission, Order No. 78552, 33-34 (June 30, 2003).

⁵⁸ *Id.* at 35.

⁵⁹ *Id.* at 36.

⁶⁰ *See id.* at 34.

⁶¹ Analysis is based upon partial r-squares computed utilizing Commerce Capital Market data contained in Anna-Maria Kovacs, Kristin L. Burns, and Gregory S. Vitale, *The Status of 271 and UNE-Platform in the Regional Bells' Territories*, Commerce Capital Markets

not be limited to UNE platform and would be applicable to all network elements. As a result, those concerns are best addressed in the Commission’s upcoming TELRIC rulemaking proceeding.⁶²

The Commission should not grant Verizon this extreme form of relief without evaluating whether State commission-mandated rates for leasing network elements do, in fact, prevent Verizon from recovering its costs. Without such analysis, it is likely that granting the relief Verizon requests will result in double recovery for Verizon, to the detriment of competitors and consumers. In fact, Verizon has provided no “tie” whatsoever between the exchange access charges it wants to collect and the amount by which UNE platform rates are “below cost.” Verizon does not even enumerate the specific exchange access charges it seeks to collect, let alone attempt to show the relationship between exchange access charges and its ostensible “under-recovery.” Without any such relationship or showing, a Commission action that imposes a new charge on entrants on top of a State commission-approved UNE rate is clearly arbitrary and capricious and contravenes the section 252(d) rate-setting process.

Verizon also asserts that incumbents should be entitled to recover exchange access

Equity Research (August 22, 2002). For a description of this analysis, see Adrian C. Darnell, *A Dictionary of Econometrics* 302-03 (1994).

⁶² As discussed above, changes may be needed to TELRIC because the Commission has (improperly) limited competitor access to the incumbents’ networks. *See Triennial Review Press Release*, Attachment at 2 (eliminating competitor access to fiber loops and fiber-fed loops on an unbundled basis pursuant to section 251(c)(3)). As a result, pricing network elements as if competitors had access to the full “features, functions and capabilities” of the ILEC local network when competitors do not in fact have such full access is no longer warranted. Alas, such a change to TELRIC would result in lower UNE rates, a change Verizon might disapprove of but which the Commission must examine in its entirety.

charges because they were designed to help recover the incumbents' infrastructure costs.⁶³ Of course, this argument also has already been rejected by the Commission, which “disagree[d] with suggestions ... [that] cost-based rates for such elements would not recover universal service support subsidies built into the access charge regime.”⁶⁴ In addition, Verizon makes no showing of the level of the “difference” between its ostensible “infrastructure costs” and UNE platform rates, nor does Verizon show that allowing it to collect per-minute access charges would magically fix that apparent shortfall (if it exists). If the Commission has real concerns about the incumbents' ability to sustain their infrastructure in the absence of per-minute access charges, the Commission may impose a universal service obligation upon all carriers – including those that lease network elements. Indeed, the Commission has done so and incumbents now collect millions of dollars per year from the federal Universal Service Fund (“USF”). Under section 254, however, the Commission must collect universal service support from carriers in a “nondiscriminatory” manner; placing a special USF assessment upon carriers simply because they lease network elements would violate that nondiscrimination principle.⁶⁵

c) Section 251(g) provides no support for Verizon's contention that IXCs should pay access charges to incumbents.

Verizon argues that requiring IXCs to pay access charges to the incumbent when competitors provide service via the UNE platform “is consistent with the expressed intent of Congress that the 1996 Act should not disrupt the pre-existing access charge regime that helped

⁶³ See *Verizon Petition* at 14.

⁶⁴ *Access Charge Reform Order* at 16130 (¶ 338).

⁶⁵ See 47 U.S.C. § 254(b)(4) (“All providers of telecommunications services should make an equitable and nondiscriminatory contribution to the preservation and advancement of universal service.”).

pay for the local network.”⁶⁶ In fact, the Commission rejected Verizon’s interpretation of section 251(g) in the *First Local Competition Order*:

We disagree with the incumbent LECs which argue that section 251(g) requires requesting carriers using unbundled elements to continue to pay federal and state access charges indefinitely. Section 251(g) provides that the federal and state equal access rules applicable before enactment, including the “receipt of compensation,” will continue to apply after enactment, “until such restrictions and obligations are explicitly superseded by regulations prescribed by the Commission after such date of enactment.” We believe this provision does not apply to the exchange access “services” requesting carriers may provide themselves or others after purchasing unbundled elements. Rather, the primary purpose of section 251(g) is to preserve the right of interexchange carriers to order and receive exchange access services if such carriers elect not to obtain exchange access through their own facilities or by means of unbundled elements purchased from an incumbent.⁶⁷

Verizon cannot reasonably rely on section 251(g) to argue that it is entitled to exchange access charges – whether those charges are paid by a competitive carrier or the IXC that originates and terminate calls – simply because Verizon received exchange access charges prior to the implementation of the 1996 Act. Instead, section 251(g) ensures that IXCs can obtain nondiscriminatory LEC-provided exchange access services, a relevant concern given the greater incentives for discrimination created by the BOCs’ new opportunities to enter the interLATA long distance market. Further, section 251(g) is a limited, transitional device that allowed the Commission to preserve pre-1996 Act regulations *until* it could implement the provisions of the

⁶⁶ *Verizon Petition* at 15.

⁶⁷ *First Local Competition Order* at 15681-15682 (¶ 362) (internal citations omitted). *See also Deployment of Wireline Services Offering Advanced Telecommunications Capability*, 15 FCC Rcd 385, 407 (¶ 47) (1999) (finding that sections 251(g) “is a transitional enforcement mechanism that obligates the incumbent LECs to continue to abide by equal access and nondiscriminatory interconnection requirements of the MFJ when such carriers ‘provide exchange access, information access and exchange services for such access to interexchange carriers and information service providers’”).

1996 Act. Clearly, then, section 251(g) does not preserve incumbents' access charge revenues on an indefinite basis, as Verizon has argued.

Verizon similarly misreads the D.C. Circuit's remand of the Commission's *Intercarrier Compensation Order*, which relied on section 251(g) to "carve out" calls made to ISPs from the provisions of section 251(b)(5).⁶⁸ Verizon argues the D.C. Circuit's holding does not apply to exchange access, because the Court only criticized the Commission's application of section 251(g) on the grounds that "there had been *no* pre-Act obligation relating to intercarrier compensation for ISP-bound traffic."⁶⁹ The mere fact that IXCs were required to pay ILECs exchange access charges prior to passage of the 1996 Act does not give the Commission authority to revive this obligation seven years later. To the contrary, "251(g) appears to provide simply for the 'continued enforcement' of certain pre-Act regulatory 'interconnection restrictions and obligations' ... *until they are superceded by Commission action implementing the Act.*"⁷⁰ The *First Local Competition Order's* requirement that IXCs pay exchange access charges to the CLEC, not the ILEC, constitutes such a superceding action by the Commission. As described above, this rule change was necessary to ensure that incumbents provide network elements at cost-based rates in conformance with section 252(d)(1), and to prevent the incumbents from double-recovering their costs through UNE rates and exchange access charges. Section 251(g) therefore provides no basis to resurrect regulatory obligations that are in direct conflict with the provisions of the 1996 Act.

⁶⁸ *WorldCom, Inc. v. FCC*, 288 F.3d 429 (D.C. Cir. 2002) ("*WorldCom*").

⁶⁹ *Verizon Petition* at 15, *citing WorldCom* at 433.

⁷⁰ *WorldCom* at ¶ 432 (emphasis added).

On one occasion, the Commission used section 251(g) to require competitors purchasing unbundled local switching to pay certain carrier access charges to the incumbents. In the *First Local Competition Order*, the Commission ordered carriers using the UNE platform to pay 75 percent of the Transport Interconnection Charge (“TIC”) and 100 percent of the Carrier Common Line Charge (“CCLC”) through June 30, 1997 to provide the industry with “sufficient time to plan for and adjust to potential shifts that may results from competitive entry.”⁷¹ Notably, this was a “one time only” decision on the Commission’s part, and it provides no support for Verizon’s pending forbearance request. The Commission recognized, for example, “that to comply with the 1996 Act, the rates that states establish for interconnection and network elements may not include non-cost-based amounts or subsidies” like those embedded in carrier access charges.⁷² Further, the Commission affirmed its earlier finding that “section 251(g) does not require that incumbent LECs continue to receive access charge revenues when telecommunications carriers use unbundled incumbent LEC network elements to originate and terminate interstate traffic.”⁷³ And the Commission only “create[d] a limited-duration mechanism” in response to “the extraordinary upheaval in the industry’s structure set in motion by the 1996 Act.”⁷⁴ The Eighth Circuit upheld this provision of the *First Local Competition Order* only because it “d[id] not think it contrary to the Act to institute access charges with a fixed expiration date, even though such charges on their face appear to violate the statute, in

⁷¹ *First Local Competition Order* at 15866 (¶ 725).

⁷² *Id.* at 15867 (¶ 726).

⁷³ *Id.*

⁷⁴ *Id.*

order to effectuate another part of the Act.”⁷⁵ Verizon would have competitive carriers using the UNE platform – and only those carriers – forfeit exchange access charges indefinitely.

d) Conclusion.

Permitting Verizon to collect exchange access charges for UNE platform lines would do nothing more than allow Verizon to line its pockets. Verizon’s proposal would simply result in double recovery for incumbents because, under law, the price for constituent elements of the UNE platform must be based upon Verizon’s costs. Verizon’s gripe seems to be with the TELRIC pricing rules: but that gripe relates to *all* network elements (not simply the UNE platform) and it is clearly better addressed in a rulemaking of general applicability, not a forbearance proceeding. Moreover, Verizon’s proposed remedy bears no relationship at all to the harm it is ostensibly suffering and would amount to no more than an arbitrary surcharge imposed by the Commission in a discriminatory manner upon one mode of entry.

The result would plainly undermine competition. As explained with respect to Verizon’s other contention, it would result in a price squeeze because competitors’ costs would be higher than the incumbents’ costs. The resulting damage to competition would injure rather than protect consumers. For those reasons, Verizon’s access charge proposal plainly fails to fulfill the requirements of sections 10(a) and 10(b).

III. THE UNE PLATFORM HAS INCREASED TELECOMMUNICATIONS INDUSTRY INVESTMENT.

Verizon’s petition claims that the Commission’s current TELRIC pricing rules harm both the telecommunications industry and the economy as a whole. Specifically, Verizon argues that the Commission’s rules “have produced UNE-P prices that fail to compensate the incumbents

⁷⁵ *CompTel v. FCC*, 117 F.3d 1068, 1074 (8th Cir. 1997).

fairly for the use of their networks and that deter, rather than promote investment in competing telephone networks and services.”⁷⁶

Of course, the Supreme Court soundly rejected these arguments in *Verizon v. FCC*, finding that it “suffices to say that a regulatory scheme that can boost such substantial competitive capital spending over a 4-year period is not easily described as an unreasonable way to promote competitive investment in facilities.”⁷⁷ Further, actual empirical evidence – unlike the investment analyst estimates and *Wall Street Journal* articles cited in Verizon’s petition – prove that Verizon’s assertions about the economic harms caused by TELRIC pricing are simply incorrect. While Verizon claims that application of the TELRIC rules to the UNE platform has “devalued existing investments by incumbents and newer entrants alike in the nation’s telecommunications infrastructure,”⁷⁸ “contributed to a massive decline in telecommunications industry investment,”⁷⁹ and “precluded development of a rational wholesale market,”⁸⁰ the opposite is true. In reality, network elements priced at TELRIC-based rates – including the UNE platform – have increased the value of capital stock in the telecommunications industry and increased total infrastructure investment since the passage of the 1996 Act.

First, the Commission’s TELRIC pricing rules have not led to the decline in telecommunications industry investment. While Verizon warns that overall infrastructure investment declined by more than \$60 million between 2000 and 2002 “as previously prescribed

⁷⁶ *Verizon Petition* at 5.

⁷⁷ *Verizon* at 516.

⁷⁸ *Verizon Petition* at 5.

⁷⁹ *Id.* at 6.

⁸⁰ *Id.* at 11.

TELRIC rates were further slashed,”⁸¹ declining investment is better explained by factors outside the Commission’s control, such as the sluggish economy and the ability of firms to acquire assets from bankrupt carriers at “fire sale” prices.⁸²

In fact, the market-opening requirements of the 1996 Act, including the availability of network elements at cost-based rates, are estimated to have generated \$267 billion in additional infrastructure investment from 1996 through 2001, or an average annual increase of 22.3 percent per year.⁸³ With regard to the UNE platform in particular, the evidence demonstrates that the BOCs have invested more in states with greater levels of competitive entry by means of the UNE platform.⁸⁴ A recent study shows that the availability of the UNE platform at TELRIC-based rates has a positive impact on investment, with each UNE-P line increasing BOC net investment by \$759 per year.⁸⁵ By the end of 2002, this generated an estimated increase of \$81.1 billion of additional investment.⁸⁶ Notably, the same study found that two alternative forms of entry – UNE-L (*i.e.*, UNE loops purchased without switching and transport) and total service resale – “do not stimulate investment by the BOCs.”⁸⁷

⁸¹ *Id.* at 7.

⁸² *See Competition and Bell Company Investment in Telecommunications Plant: The Effects of UNE-P*, Phoenix Center Policy Bulletin No. 5 (July 9, 2003) (“*UNE-P Investment Report*”), attached as Exhibit A.

⁸³ *See The Truth About Telecommunications Investment*, Phoenix Center Policy Bulletin No. 4 at 3 (June 24, 2003) (“*Investment Report*”), attached as Exhibit B.

⁸⁴ *See UNE-P Investment Report* at 10-15.

⁸⁵ *See id.* at 13.

⁸⁶ *See id.*

⁸⁷ *Id.* at 13-14.

Competition from the UNE platform also mitigated the effects of declining BOC infrastructure investment. While BOC net plant investment fell by seven percent in 2002, the expected total decline would have been 13 percent if the BOCs had not increased investment in response to the UNE platform.⁸⁸ Further, no investment growth would have been realized in 2001 absent UNE-based competition.⁸⁹

Regardless, the Commission should not be concerned about declining investment. It is reasonable to assume that immediately after the passage of the 1996 Act, investment would increase sharply as new entrants built the capital stock required to provide telecommunications services. These extraordinary increases in investment are not sustainable in the long run, however, nor are they an appropriate policy goal. In fact, “A sensible expectation of the effects of the 1996 Act on investment is ... an immediate rise in investment and capital stock and the eventual decline in investment once new network construction nears completion, with capital stock remaining above pre-Act levels.”⁹⁰ Declining capital expenditures by telecommunications firms therefore provide no basis for changing the Commission’s TELRIC pricing rules. Society is better off when firms operate more efficiently, producing constant or increased levels of output with *less* investment. Indeed, a recent study of the Commission’s deregulation of special access services correctly argued that, “the current Commission’s preoccupation with maximizing industry inputs (*e.g.*, jobs and the sales of equipment from vendors) rather than the efficient production and distribution of equipment (*i.e.*, leading to declining prices, more innovation) is

⁸⁸ *See id.* at 13.

⁸⁹ *See id.*

⁹⁰ *Id.* at 7.

misplaced.”⁹¹ Economic efficiency, not investment, is the ruler against which the Commission should measure the success of its policies. The Commission’s current TELRIC pricing rules, as implemented by the state commissions, measure up well against this ruler.

Second, contrary to Verizon’s assertions, the Commission’s TELRIC pricing rules have not devalued investment and the pricing rules are not inherently deflationary.⁹² Instead, the availability of network elements at TELRIC-based rates has *increased* the capital stock of telecommunications firms by increasing overall investment. After passage of the 1996 Act, the capital stock of telecommunications firms grew on average by 7.9 percent annually – a significant increase over the 3 percent average annual growth rate prior to the passage of this landmark legislation.⁹³ This equaled a \$194 billion increase in the capital stock of telecommunications firms by the end of 2001.⁹⁴ Rather than devaluing the investments of either incumbents or new entrants,⁹⁵ “capital stock remains substantially above trend” as a result of the market-opening requirements of the 1996 Act, including the availability of the UNE platform at TELRIC-based rates.⁹⁶

Third, while it is correct that (allegedly) “independent analysts have concluded that the result [of the Commission’s TELRIC pricing rules] is to produce artificially low rates that are

⁹¹ George S. Ford, Ph. D., and Lawrence G. Spiwak, Esq., *Set It and Forget It? Market Power and the Consequences of Premature Deregulation in Telecommunications Markets*, Phoenix Center Policy Paper Number 18 at 7 (July 23, 2003) available at <http://www.phoenixcenter.org/pcpp/PCPP18.pdf>.

⁹² *See Verizon Petition* at 5-6.

⁹³ *See Investment Report* at 5.

⁹⁴ *See id.* at 5.

⁹⁵ *See Verizon Petition* at 6.

⁹⁶ *Investment Report* at 5.

well below any realistic measure of the incumbent's costs,"⁹⁷ this statement should be taken with a grain of salt. A recent paper subjected many of the studies on which Verizon's petition relies to a rigorous review, and found that they are "largely without merit" based on "errors in both the calculation of unbundled element revenues, and in the wholesale costs of providing unbundled elements."⁹⁸ To the contrary, using the BOCs' publicly filed ARMIS data and revenue estimates provided by a sample CLEC, this paper found that "positive gross and net margins are the rule when costs and revenues are aggregated to the level of the BOC. Even the inclusion of depreciation and a return on capital does not materially alter this conclusion – UNE-P is *profitable* to the BOCs."⁹⁹

For those reasons, Verizon's erroneous argument that the UNE platform has deterred investment provides no reasonable basis on which to amend the Commission's rules in the manner Verizon proposes.

⁹⁷ *Verizon Petition* at 3. Indeed, the actual independence of these analysts is unclear. To the extent that they provide advice from an investor's point of view, a firm that retains its monopoly power might present an excellent investment opportunity. This, however, would not be a reasonable public policy objective.

⁹⁸ See T. Randolph Beard, George S. Ford, and Christopher C. Klein, "The Financial Implications of the UNE-Platform: A Review of the Evidence." Forthcoming in *Journal of Communications Law and Policy* (Fall/Winter 2003) at 25, attached as Exhibit C.

⁹⁹ *Id.*

CONCLUSION

For the foregoing reasons, Verizon's petition should be denied.

Respectfully submitted,

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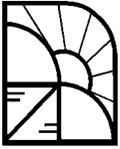
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EXHIBIT A



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PHOENIX CENTER POLICY BULLETIN NO. 5

9 July 2003

COMPETITION AND BELL COMPANY INVESTMENT IN TELECOMMUNICATIONS PLANT: THE EFFECTS OF UNE-P

Summary of Findings: After a brief discussion on expected and actual investment behavior in the telecommunications industry after the 1996 Act, an econometric model is used to quantify the relationship between UNE-P competition and Bell Operating Company investments in telecommunications plant. Using publicly-available Federal Communications Commission data, a positive relationship between UNE-P competition and BOC average net investment is found. According to the model, each UNE-P access line increased BOC average net investment by \$759 per year, or about 6.4% per year in the aggregate. While BOC net investment fell by about 7% in 2002, investment dollars were more heavily allocated to states with greater levels of UNE-P competition, and this additional investment offsets the total decline in investment by about 50%.

I. Introduction: Bell Company Investment Post-1996 Act

PHOENIX CENTER POLICY BULLETIN NO. 4 examined the Telecommunications Act of 1996's general effect on investment by telecommunications firms. Using publicly-available government data on investment by telecommunications firms, that BULLETIN quantified the substantial and sustained increases in investment by telecommunications firms immediately following the 1996 Act and continuing through 2001 (the last year for which data was available).¹ The statistics reported in that BULLETIN indicated that the 1996 Act led to an additional \$267 billion in telecommunications investment from 1996 through 2001. Equally as

¹ PHOENIX CENTER POLICY BULLETIN NO. 4: *The Truth About Telecommunications Investment* (24 June 2003) (available at <http://www.phoenix-center.org/PolicyBulletin/PolicyBulletin4Final.pdf>). According to the BEA webpage, it expects to release 2002 data around September 2003.

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important, PHOENIX CENTER POLICY BULLETIN NO. 4 demonstrated that the capital stock for this time period also grew rapidly with net capital-stock exceeding historical trend by nearly \$200 billion at the end of 2001.² The evidence presented in that BULLETIN clearly is consistent with the hypothesis that the 1996 Act increased capital spending in the telecoms sector. As the U.S. Supreme Court recognized: it “suffices to say that a regulatory scheme [*i.e.*, requiring monopoly incumbents to unbundle key elements of their network at their Total Element Long-Run Incremental Costs or “TELRIC”] that can boast such substantial competitive capital spending over a 4-year period is not easily described as an unreasonable way to promote competitive investment in facilities.”³

² *Id.*

³ *Verizon v. FCC*, 122 S. Ct. 1646, 1675-76 (2002). Since the FCC’s adoption of TELRIC, the Bell Companies have presented a wide variety of objections, ranging from the full gamut from TELRIC produces confiscatory (*i.e.*, below-cost rates that constitute an improper “takings” under the Constitution) to lack of profitability to just plain unfairness. See, *e.g.*, *In the Matter of Petition for Forbearance From the Current Pricing Rules for the Unbundled Network Element Platform, Petition For Expedited Forbearance of the Verizon Telephone Companies* (filed 1 July 2003). Unfortunately for the Bells, however, such a claim is supported neither by the law, economics or facts. To wit, the Court in *Verizon* expressly found that, among other things: (1) the Bells are monopolists and, as such, Congress intended to treat them differently and impose asymmetrical regulation to mitigate their market power; (2) “Convergence” of networks (*i.e.*, so called “inter-modal” competition”) is ephemeral at best, and consumers generally do not view other distribution technologies as close substitutes for the Bells’ local access networks; (3) BOC sabotage against their rivals for wholesale “last mile” access remains real and must be addressed; (4) Because the local market is far from competitive (just as when the Bell system was first broken up), the BOCs today can still leverage their market power in the last mile into the ancillary markets such as long distance, terminal equipment and data; and (5) Rivals who enter via unbundled network elements are *not* “parasitic competitors” and that any notion that TELRIC stymies facilities-based competition “founders on fact.” For a full discussion of the *Verizon* Opinion and the current FCC broadband initiatives, see Lawrence J. Spiwak, *The Telecoms Twilight Zone: Navigating the Legal Morass Among the Supreme Court, the D.C. Circuit and the Federal Communications Commission*, PHOENIX CENTER POLICY PAPER SERIES NO. 13 (August 2002) (<http://www.phoenix-center.org/pcpp/PCPP13Final.pdf>); COMMUNICATIONS WEEK INTERNATIONAL, *Opinion: U.S. Competition Policy – The Four Horsemen of the Broadband Apocalypse* (01 April 2002) (available at <http://www.phoenix-center.org/commentaries/CWIHorsemen.pdf>).

Moreover, the record simply does not support the BOCs’ position. PHOENIX CENTER POLICY PAPER NO. 16 reveals that the States have been extremely careful to ensure that TELRIC rates accurately reflect the Bells’ forward looking costs. Moreover, the States have actually preserved some BOC profit in a politically-sensible “50/50” split between the desired outcomes of new entrants and the incumbents. Accordingly, the fact that BOC margins are declining is an intended consequence of the Telecommunications Act 1996 and a rational public policy that, deliberately, does not incorporate the monopoly rents the Bells have traditionally enjoyed in the wholesale prices for unbundled network elements. T. Randolph Beard and George S. Ford, *What Determines Wholesale Prices for Network Elements in Telephony? An Econometric Evaluation*, PHOENIX CENTER POLICY PAPER NO. 16 (September 2002) (<http://www.phoenix-center.org/pcpp/PCPP16.pdf>).

Similarly, the BOCs’ argument is particularly odd under any scenario because the BOCs will lose *more money* if they lose a customer to a facilities-based competitor outright. As PHOENIX CENTER POLICY PAPER NO. 15 demonstrates, when losing a customer to a facilities-based provider, the BOCs would: (1) receive no revenue for that last line; and (Footnote Continued...)

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This BULLETIN goes beyond PHOENIX CENTER POLICY BULLETIN NO. 4 to analyze how particular pro-competitive policies of the 1996 Act have specifically affected investment by the Bell Operating Companies (“BOCs”) in telecommunications plant. In particular, this BULLETIN evaluates the impact on BOC investment of the 1996 Act’s requirement that the BOCs (and other local exchange carriers) offer to competitors the unbundled element combination of loop, switching and transport elements at TELRIC pricing, commonly referred to as Unbundled Network Element - Platform or “UNE-P.” In an effort to address this question, this BULLETIN constructs a data set of investment and related information from the Automated Reporting Management Information System (“ARMIS”). These investment data are analyzed together with the number of access lines provisioned over the UNE-Platform in each State. With these data, it is possible to specify an empirical model that measures the relationship between UNE-P competition and BOC investment.

The D.C. Circuit Court of Appeals remand in *United States Telephone Association v. FCC* requires us to measure directly and specifically the effect of UNE-P on investment rather than to speculate about the effect with unfounded assertions derived from economy- or sector-wide trends and data aggregates.⁴ Specifically, the court opined “the existence of investment of a

also (2) would continue to incur the sunk costs of building their respective networks out to that customer in the first instance. With UNE-P, however, the BOCs still receive a steady revenue stream from that line that covers their forward-looking costs of these facilities plus a reasonable rate of return. The only plausible explanation of this apparently economically irrational behavior is that the BOCs’ fully understand that facilities-based competition will be nascent for the foreseeable future and, as such, eliminating UNE-P virtually assures the BOCs’ ability to recover monopoly rents from their dominance of the “last mile.” See George S. Ford, *A Fox in the Hen House: An Evaluation of Bell Company Proposals to Eliminate their Monopoly Position in Local Telecommunications Markets*, PHOENIX CENTER POLICY PAPER NO. 15 (September 2002) (<http://www.phoenix-center.org/pcpp/PCPP15%20Final.pdf>); see also Thomas W. Hazlett & George S. Ford, *The Fallacy of Regulatory Symmetry: An Economic Analysis of the “Level Playing Field,”* in *Cable TV Franchising Statutes*, 3 BUSINESS AND POLITICS 21 (2001) (available for download at: <http://www.egroupassociates.com/Reports/fallacy.pdf>) (incumbents understand all too well the economics of facilities-based entry, and therefore “strategically compete in the political realm to create legislation that protects rents of established operators”).

Finally, PHOENIX CENTER POLICY PAPER NO. 17 finds that the Bells are, in fact, profitable wholesale suppliers of unbundled network elements as required by the 1996 Telecommunications Act. T. Randolph Beard and Christopher C. Klein, *Bell Companies as Profitable Wholesale Firms: The Financial Implications of UNE-P*, PHOENIX CENTER POLICY PAPER NO. 17 (November 2002) (<http://www.phoenix-center.org/pcpp/PCPP17Final.pdf>). Specifically, PHOENIX CENTER POLICY PAPER NO. 17 estimates that: (a) wholesale operating costs are about \$10 per line across the BOCs; (b) EBITDA (earnings before interest, taxes, depreciation and amortization) margins are positive and average over \$14 per line per month; and (c) operating margins (or EBIT, earning before interests and taxes) are also positive, and average 40% of revenues.

⁴ 290 F.3d 415 (D.C. Cir. 2002), cert. denied sub nom. 123 S.Ct. 1571 (2003). For a particularly bold example of unfounded assertions, see S. B. Pociask, *The Effects of Bargain Wholesale Prices on Local Telephone Competition: Does Helping Competitors Help Consumers?*, New Millennium Research Council and Competitive Enterprise Institute (June 2003) (“Assuming half of the [economy wide] decline in [IT] investment was the result of UNE-P regulation (at 20)”).
(Footnote Continued...)

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specified level tells us little or nothing about incentive effects. The question is how such investment compares with what would have occurred in the absence of the prospect of unbundling, an issue on which the record appears silent.”⁵ A precise assessment of incentives, the court stated, is best determined by “multiple regression analyses.”⁶ This BULLETIN provides such regression analysis, as did POLICY BULLETIN NO. 4, and shows that UNE-P contributes positively to BOC investment.

This BULLETIN reaches several findings:

- Our empirical analysis indicates that competition from UNE-P *does affect* BOC investment. Specifically, the BOCs invest significantly more in states where UNE-P competition is further developed.⁷ This finding conflicts with empirically unsupported analyses regarding the negative effects of UNE-P on BOC investment.⁸ While poor economic conditions are curtailing investment in most sectors of the economy including telecommunications, the specific effect of UNE-P on investment is positive.⁹
- Other forms of competitive entry, such as UNE-L and Total Service Resale, are found to have no statistically significant effect on BOC investment.
- The patterns of telecommunications investment and capital stock observed over the past few years are entirely consistent with expectations and with the hypothesis that the 1996 Act increased investment.
- Despite claims to the contrary, BOC Total Plant in Service continues to rise.

Pociask fails to account for the fact that IT investment by telecommunications firms represents only 15.6% of total IT investment. Incorporating this fact into his calculations, the alleged \$101 per household harm caused by UNE-P is reduced to \$15.75.

⁵ *Id.* at 425 (citations omitted).

⁶ *Id.*

⁷ For our sample, the total change in net investment between 2002 and 2001 was -\$648 million, whereas total net investment in 2001 was \$8.8 billion.⁴

⁸ See, e.g., Pociask, *supra* n. 4; J. A. Eisenach and T. M. Lenard, *Telecom Deregulation and the Economy: The Impact of UNE-P on Jobs, Investment and Growth*, Progress & Freedom Foundation, PROGRESS ON POINT, RELEASE 10.3 (Jan. 03); J. Eisner and D. Lehman, *Regulatory Behavior and Competitive Entry* (June 2001). These studies assume rather than test whether UNE-P has affected investment.

⁹ See PHOENIX CENTER POLICY BULLETIN NO. 4, *supra* n. 1; R. O. Beil, G. S. Ford, and J. D. Jackson, *On the Relationship between Telecommunications Investment and Economic Growth in the United States* (June 2003) (www.telepolicy.com).

Combined with the findings from POLICY BULLETIN NO. 4 and other papers evaluating econometrically the relationship between unbundling and investment, including Ford and Pelcovits (2002), Beard *et al.* (2002a, 2002b, 2002c), Willig *et al.* (2002), and Hassett and Kotlikoff (2002), the empirical evidence is mounting against the oft-repeated claim that the unbundling policies of the 1996 Act reduce investment by both incumbents and entrants.¹⁰ Ford and Pelcovits (2002) show, using two separate econometric tests motivated by the economic theory of entry, that facilities-based entry is higher in states with lower unbundled element prices. This finding suggests a complementary relationship between UNE and facilities-based entry. Beard, Ford and Koutsky (2002a) provide a theoretical analysis of why a complementary relationship exists, and their empirical analysis of CLEC switch deployment indicates that the complementary relationship between unbundling and facilities-based entry is larger than the substitution relationship advocated by the BOCs. A recent paper by Beard, Ford and Ekelund (2002b), in addition to providing an insightful economic definition of the impairment standard of the 1996 Act's section 251(d)(2)(B), present econometric evidence showing that self-supplied and unbundled switching are not effective substitutes, implying the two forms of switching are used to serve different markets. Beard and Ford (2002c) provide supporting evidence of the same proposition. Willig *et al.* (2002) use a panel dataset to evaluate the relationship between unbundling and investment, and find a positive link between the two. Using a simulation analysis based on a theoretical model, Hassett *et al.* (2002) illustrate how competitive entry in telecommunications markets improves economic performance.

To date, there is no reliable econometric evidence of which we are aware that indicates unbundling discourages investment by either the BOCs or CLECs, or otherwise has any negative impact on economic performance in the telecommunications industry.¹¹ However, the

¹⁰ See G. S. Ford and M. D. Pelcovits, *Unbundling and Facilities-Based Entry by CLECs: Two Empirical Tests* (July 2002): www.telepolicy.com; T. R. Beard, R. B. Ekelund Jr., and G.S. Ford, *Pursuing Competition in Local Telephony: The Law and Economics of Unbundling and Impairment* (November 2002): www.telepolicy.com; T. R. Beard, G. S. Ford, and T.M. Koutsky, *Mandated Access and the Make-or-Buy Decision: The Case of Local Telecommunications Competition* (December 2002): www.telepolicy.com; R. D. Willig, W. H. Lehr, J. P. Bigelow, and S. B. Levinson, *Stimulating Investment and the Telecommunications Act of 1996*, Unpublished Manuscript (October 2002); K A. Hassett and L. J. Kotlikoff, *The Role of Competition in Stimulating Telecom Investment*, AEI PUBLICATION (October 2, 2002) (www.aei.org/publications/pubID.14873/pub_detail.asp). Hassett *et al.* (2002) perform a simulation rather than using actual data. See also, *Does Unbundling Really Discourage Facilities-Based Entry? An Econometric Examination of the Unbundled Local Switching Restriction*, Z-Tel Policy Paper No. 4 (February 2002): www.telepolicy.com.

¹¹ Filed on behalf of Qwest in the FCC's Triennial Review proceeding, Strategic Policy Research (a consulting firm) presented econometric evidence for which they claimed showed that low unbundled loop rates reduce BOC investment. However, their finding was found to be very sensitive to model specification, with a contradictory results arising from a minor modification to the empirical model. See Letter to Mr. William Maher from T.M. Koutsky and G.S. Ford, Z-Tel Communications, CC Docket No. 01-338, Oct. 7, 2002 ("SPR's analysis is not robust, in that the model produces conflicting results with only minor modifications to specification (at 16).")

competition facilitated by unbundling has been shown to lead to substantial price declines and innovation in telecommunications markets.¹²

II. How Should the 1996 Act Affect Investment by Telecommunication Firms?

Notwithstanding the compelling evidence provided by government statistics on investment by telecommunications firms, some continue to argue that the 1996 Act still failed because investment in the sector has tapered off in the past few quarters.¹³ Such simple thinking ignores the basic relationship between the capital stock and investment. Serving the demand of a particular market requires a given capital stock, which represents all assets used to produce goods and services to consumers. Investment represents additions to this capital stock, whereas depreciation represents subtractions from it. Constructing a network requires substantial investment in the early years as the required capital stock of the entrant is developed. Once

¹² See the "Projected Savings ..." reports published by Telecommunications Research and Action Center (TRAC) in 2001-2002 (www.trac.org/publications); Comptel's Consumer Savings Analysis, January 2003 (www.comptel.org); Y. M. Braunstein, *The Role of UNE-P in Vertically Integrated Telephone Networks: Ensuring Healthy and Competitive Local, Long-Distance and DSL Markets*, Working Paper, University of California-Berkeley (May 2003); www.sims.berkeley.edu/~bigyale/UNE/index.html; L. L. Selwyn and S. M. Gately, *Business Telecom Consumers Benefit from UNE-P Based Competition*, Unpublished Manuscript (Dec. 2002); *UNE-P Saves Businesses \$6 Billion*, THE DIGEST (January 27, 2003). A recent report by the Consumer Federal of America (<http://www.consumersunion.org/telecom/teledc201.htm>) describes the benefits of competition in New York State:

As a result of genuinely open markets, consumers in New York have switched companies in droves (2 million local and 1.5 million long distance). Companies have engaged in 'tit-for-tat' competition, matching each other's offers. Prices for both local and long distance service have dropped substantially (approximately 20 percent for those who shop).

Frequent Bell Company witness and former Chief Economist of the FCC attributes the diffusion of DSL to the consumer market as a direct consequence of unbundling:

In the case of DSL, the technology was not deployed at all to provide retail, high-speed data services when local exchange companies had regional monopolies. ... Carriers did not offer DSL service as a consumer product on its own until late in 1996. That year, the Telecommunications Act of 1996 ("the Act") opened the local telephone market to competition. The Act required incumbent telephone companies to lease out elements of their systems for competitors to use to provide service. New entrants were then able to lease copper "loops" that link central offices to customers, install their own DSL equipment and connections to the internet, and offer high-speed data service to customers that was cheaper and easier to obtain than T1 service.

H. A. Shelanski, *Competition & Deployment of New Technology in U.S. Telecommunications*, U. CHI. LEGAL F. 85 (2000).

¹³ See COMMUNICATIONS DAILY, *Telecom Investment Soared After the 1996 Act* (25 June 2003) (According to the United States Telephone Association, PHOENIX CENTER POLICY BULLETIN NO. 4 "conveniently stops at 2001," when industry spending began slowing down: "As everyone who follows telecom knows, over the last 18 months, this sector has been extremely challenged and capital expenditures are down significantly.")

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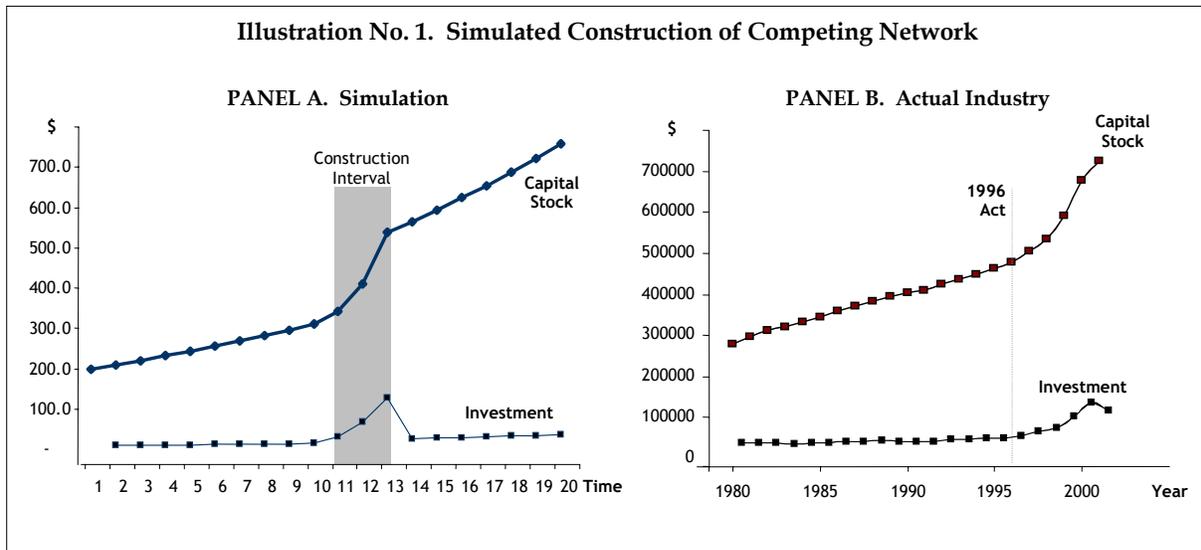
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construction is complete, investment slows down considerably as the network need only be maintained and extended in relatively limited circumstances. A sensible expectation of the effects of the 1996 Act on investment is, therefore, an immediate rise in investment and capital stock and the eventual decline in investment once new network construction nears completion, with capital stock remaining substantially above pre-Act levels.

Illustration No. 1, Panel A, below demonstrates this point by graphing the results of a simple simulation, where an entrant replicates a monopoly network. For the simulation, the following is assumed: (a) a monopoly network serves the entire customer base (100 units, growing at 5% annually) for periods 1 through 10; (b) the capital stock required to serve the customer base is \$1 per unit of total market (*i.e.*, homes passed) plus \$1 per unit sold; (c) the entrant constructs a network in periods 11 through 12 capable of serving the entire market (passing 10% of homes in the first year, 40% the second year, and all homes during the third year); (d) the entrant has 5% market share the first year, 25% the second year, and 50% for the remainder of the simulation. Illustration No. 1, Panel A, illustrates both the capital stock and investment (for both incumbent and entrant) from this simulation. This simple simulation establishes reasonable expectations about how investment and capital stock should change when entry is allowed in a monopolistic market.



For years 1 through 10, the capital stock rises 5% annually as the network grows with the customer base (5% annually). Investment is simply the difference in the capital stock between years (*i.e.*, there is no depreciation for simplicity). In year 11, the entrant begins constructing its network; note the rise in both capital stock and investment. This construction continues in years 12 and 13 with capital stock and investment rising sharply. In year 14, the entrant's construction is complete and investment plummets; future growth now is related only to the

growth in the size of the market (total units sold grows 5% annually, of which the entrant gets half). The capital stock is now (about) twice its monopolistic level.¹⁴ Thus, it is the capital stock and not investment that serves as a better indicator of the effects on investment of a “pro-entry” regulatory agenda.¹⁵

Now, compare Panel A and Panel B in Illustration No. 1, the latter illustrating actual capital stock and investment by telecommunications firms in the U.S. over the period 1980 through 2001.¹⁶ The similarity between the illustrated trends in capital stock and investment is as undeniable as it is expected. After the 1996 Act, the capital stock and investment levels of telecommunications firms began rising sharply. In 2001, investment declined, indicating that the capital stock was leveling off at its new “equilibrium” level (about \$200 billion above what would be expected in 2001 based on historical investment).¹⁷ Therefore, the decline in investment in 2001 through today is entirely consistent with expectations following the 1996 Act, and no cause for alarm.

Reductions in investment levels following an unprecedented rise in capital stock are required; the combination of events is entirely consistent with an effective pro-competitive agenda. Importantly, other things affect investment as well, including the sluggish economy experienced in the U.S. over the past few years.¹⁸ Additionally, if facilities-based competition is as widespread as the BOCs assert, then BOC investment should be declining. After all, the BOC networks were required to serve the entire telecommunications local exchange and access demand prior to the 1996 Act, but now demand is shared among multiple carriers. Thus, by

¹⁴ Importantly, it is not clear that such replication is socially desirable. If one firm can serve the entire demand most efficiently, then replicating the network may be undesirable. Of course, the effect on output price and the efficiency with which the incumbent operates as a monopolist cannot be ignored in such an analysis. See G. Mankiw and M. Whinston, *Free Entry and Social Inefficiency*, RAND JOURNAL OF ECONOMICS, 17, Spring 1986, 48-58.

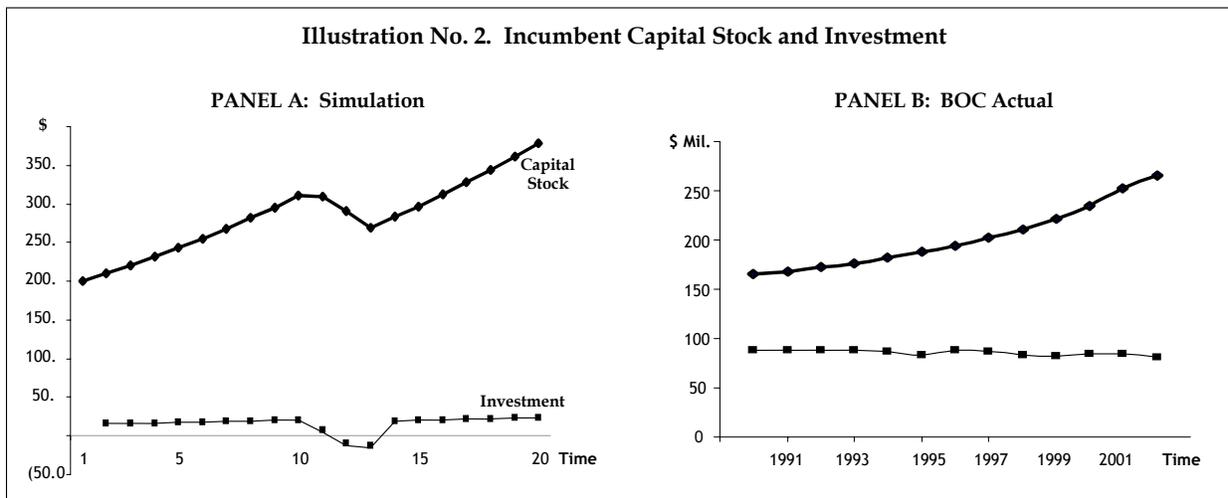
¹⁵ If entrants over-invest (perhaps due to misjudging their future market share), then capital stock may actually decline until it reaches a level consistent with the entrant’s market share. Given rampant failure of facilities-based CLECs, a decline in total capital stock in the telecom industry is to be expected.

¹⁶ This figure uses the same data as POLICY BULLETIN NO. 4.

¹⁷ See PHOENIX CENTER POLICY BULLETIN NO. 4, *supra* n. 1.

¹⁸ Beil *et al.*, *supra* n. 9 (2003) show that investment by telecommunications firms is caused by economic growth (but not vice versa). Some research suggests information technology (“IT”) investment contributes positively to Gross Domestic Product and productivity, but these studies do not focus solely on investment by telecommunications firms nor test for causality (just correlation). See, e.g., D. W. Jorgenson, *Information Technology and the U.S. Economy*, 91 AMERICAN ECONOMIC REVIEW 1-32 (2001) and S. D. Oliner and D. E. Sichel, *The Resurgence of Growth in the Late 1990s: Is Information Technology the Story?*, 14 JOURNAL OF ECONOMIC PERSPECTIVES 3-22 (2000). Investment by telecommunications firms represents only 16% of total IT investment (based on BEA data). Oliner and Sichel (2000) show that investment in information technology (IT), such as computer hardware and software, has a substantially stronger correlation with economic growth than investment in communications equipment.

definition, BOC investment should be lower today than in previous years. For the simulation, the decline in the incumbent's capital stock and investment is illustrated in Illustration No. 2, Panel A.¹⁹ In Panel B, actual BOC Total Plant in Service ("TPIS") and Average Net Investment are illustrated (Qwest data for 2002 is unavailable, so the data is BellSouth, SBC, and Verizon only). The steady rise in TPIS and relatively flat Average Net Investment suggests that facilities-based competition is relatively limited in local exchange markets today, since no substantial decline in either capital stock or investment is observed. Further, Average Net Investment declines in six of the last twelve years, suggesting reduction in net investment is neither a rare nor a new phenomenon. Despite BOC claims, no decline in TPIS has occurred since the 1996 Act, so the local exchange telecommunications plant remains intact and continues to grow.



Further, aggregate investment levels depend not only on the quantity of assets purchased, but the price at which such assets are acquired. If there truly is as much excess (*i.e.*, underutilized) capacity of sunk assets in the market as some claim, then - as the FCC itself

¹⁹ The negative investment levels can be viewed as plant retirements.

concedes – investment should also logically decline as firms can acquire assets far cheaper at bankruptcy fire sales than buy building new networks from scratch.²⁰

Further, and perhaps most importantly, reductions in investment are not *per se* undesirable. Economic performance in an industry is improved when industry output is produced with lower quantities of capital and/or labor. If output in the telecommunications industry rises or is constant and this output is produced with less investment, then society is probably better off for it.²¹ *Accordingly, investment itself is not a valid policy goal; economic performance is the proper standard for measuring the success or failures of particular policies.*

These aggregate statistics are no doubt interesting, but do not allow us to measure the effect of particular competition policies on investment. In the next section, we combine less aggregated data with an econometric model to quantify the effect of UNE-P on BOC investment. Unlike the unsupported claims by the BOCs (and their advocates) that UNE-P causes all ills in telecommunications, the data indicate that UNE-P increases BOC investment by a significant amount.

III. Bell Company Investment in Response to UNE-P

This analysis begins by constructing a dataset with state-level investment data provided by ARMIS and UNE-P line data from the FCC's Form 477 (years 2000, 2001 and 2002).²² ARMIS does not currently provide 2002 investment data for Qwest, so the analysis is restricted to BellSouth, SBC, and Verizon states (excluding the former GTE states). Excluding Qwest from the analysis, while necessary, is also desirable, since that the company is in exceedingly poor financial health relative to its BOC colleagues.²³ Further, there is very little UNE-P competition in the Qwest region (only 4.9% of UNE-P lines, but 11% of total access lines). Merging ARMIS

²⁰ See, e.g., *In re Implementation of Local Competition in Telecommunications Act of 1996*, First Report and Order, 11 FCC Rcd 15499 (1996) at ¶ 688; *In re Access Charge Reform*, Fifth Report and Order and Further Notice of Proposed Rulemaking, ___ FCC Rcd ___, FCC 99-206 (rel. 27 Aug. 1999) at ¶ 80.

²¹ Relative efficiency requires information as to whether other less productive inputs are being substituted for capital (e.g., labor).

²² ARMIS data is available at the FCC's website free of charge (www.fcc.gov/wcb/armis). Investment is from ARMIS Form 43-01 (Subject to Separations, Total Operating Revenues and Average Net Investment). UNE-P lines are measured as of June of each year.

²³ See, e.g., A. Bryer, *Qwest Indictments Capped Year-long Troubles at Telco*, Denver Business Journal (March 3, 2003): www.bizjournals.com/denver/stories/2003/03/03/story2.html; *Qwest Posts \$1.14B 2Q Loss*, CNN/Money (August 8, 2002) (money.cnn.com/2002/08/08/news/companies/qwest); *Nacchio out at Qwest*, CNN/Money (June 17, 2002) (money.cnn.com/2002/06/17/news/ceos/qwest/). Even Qwest describes its accounting practices as "questionable." See *Qwest Gets More Time to Finish Audits*, TR DAILY (July 1, 2003).

with Form 477 data renders a dataset consisting of 52 observations, which is more than adequate for econometric analysis and traditional hypothesis testing.

Turning to the empirical model, assume that the BOC's net investment in state i at time t ($K_{i,t}$) is a function of market size ($R_{i,t}$), the amount of UNE-P competition ($U_{i,t}$), time-variant factors that are identical across states such as the cost of capital (Z_i), and state specific factors that are constant over short periods of time such as state tax rates (X_i). (To avoid unnecessary notation, assume there is a single Z and X .) Symbolically, we have the regression function

$$K_{i,t} = \beta_t + \alpha_1 R_{i,t} + \alpha_2 U_{i,t} + \alpha_3 Z_i + \alpha_4 X_i + \varepsilon \quad (1)$$

where ε is a well-behaved econometric disturbance term and the β and α are estimated coefficients. In Equation (1), a linear functional form is assumed and the coefficients (α) are assumed to be constant over short-intervals of time, but β is allowed to vary.²⁴ Rewriting Equation (1) as a first-difference equation, we have:

$$\Delta K = \Delta\beta + \alpha_1 \Delta R + \alpha_2 \Delta U + \alpha_3 \Delta Z + \Delta\varepsilon \quad (2)$$

where Δ indicates a first difference, $\Delta\beta (= \beta_t - \beta_{t-1})$ is the constant term of regression, and the error term is well-behaved (as are its components, the $\varepsilon_{i,t}$).²⁵ Since X_i is time invariant, the coefficient α_4 from Equation (1) is eliminated by subtraction.

From Equation (2), the coefficient on ΔR (α_1) measures the influence of the BOC's market size on its net investment, and the expectation is that α_1 will be positive. For our model, market size is measured by BOC total operating revenues in the state. The coefficient on ΔU (α_2) is of primary interest because it measures the influence of UNE-P competition on BOC net investment. If UNE-P competition increases net investment in plant, then α_2 will be positive; alternately, if UNE-P competition reduces net investment in plant, then α_2 will be negative. We make no *a priori* expectation with respect to α_2 , allowing the data to inform us as to the relationship between UNE-P and net investment. Finally, the variable Z takes the form of a dummy variable that equals 1 for the second period (2001 to 2002), 0 otherwise. This dummy variable captures the effect of any change in all other relevant factors between the periods that do not vary by state (interest rates, etc).

²⁴ Allowing β to vary lets the average change in net investment differ between periods.

²⁵ See J. M. Wooldridge, *ECONOMETRIC ANALYSIS OF CROSS SECTION AND PANEL DATA 2002*, Section 10.6.

The least squares estimates of Equation (2) are summarized in Table 1. Model 1 expresses the variables in levels, whereas Model 2 expresses the variables ΔK , ΔR , and ΔU on a per-access line basis.²⁶ Model specification tests (White and RESET) indicate Model 2 is better specified, passing both tests easily.²⁷ Thus, discussion of the results will be limited to Model 2 (unless otherwise stated). Given the parsimonious and linear specification of Equation (2), the inability to reject the null hypothesis of the RESET test is encouraging, since RESET, while a rather general specification test, is highly effective at detecting omitted variables and incorrect functional form.²⁸ As illustrated in Table 1, the results between the two models are not much different for the coefficient of interest (ΔU , α_2), though the coefficient in Model 2 is smaller than Model 1. (The difference in the coefficients for $\Delta\beta$ and ΔZ is caused by the scaling of the dependent variable.)

Table 1. Summary of Results		
Variable	Model 1	Model 2
$\Delta\beta$	-1.3E+07 (0.20)	-13.34 (-1.21)
ΔR (α_1)	0.92 (2.53)*	0.42 (1.49)
ΔU (α_2)	815.6 (2.77)*	759.1 (2.55)*
ΔZ (α_3)	-1.9+08 (-2.07)*	-70.94 (-4.46)*
R ²	0.33	0.48
White χ^2	18.58*	0.81
RESET	20.10*	0.13

* Statistically significant at the 5% level or better.
** Statistically significant at the 10% level or better.

Both Models 1 and 2 exhibit good statistical significance, with nearly 50% of the total variation in BOC net investment explained by Model 2. The constant term ($\Delta\beta$) is statistically

²⁶ Total access lines are provided by Form 477.

²⁷ The null hypothesis of the White test is “homoscedastic disturbances” and the null of RESET is “no specification error.” Ideally, neither hypothesis would be rejected and neither is for Model 2, but both nulls are rejected for Model 1. For a description of these tests, see D. N. Gujarati, 3 BASIC ECONOMETRICS 1995, at 379 and 464.

²⁸ See J. R. Thursby, *Alternative Specification Error Tests: A Comparative Study*, 74 JOURNAL OF THE AMERICAN STATISTICAL ASSOCIATION 222-225 (1979). In an alternate specification, total access lines in the state was included as a regressor to insure that the market size was not responsible for the estimated relationship between investment and UNE-P lines. The results were unchanged (for the most part), and the access lines variable was not statistically significant.

significant in Model 1 but not Model 2, which is not surprising given that the dependent variable in Model 2 is expressed on a per-line basis. The coefficient on ΔR is statistically significant in Model 1 at traditional levels, but is only significant at the 14% level in Model 2 (which is significant at the 10% level in a one-tail test, which may be appropriate given that only positive values of α_1 are expected). The estimated coefficients indicate that investment increases by about \$0.42 (Model 2) for every additional dollar of annual revenue, other things constant. In both models, the coefficients on ΔU and ΔZ (α_2 and α_3 , respectively) are statistically different from zero at traditional significance levels. The coefficient on ΔZ (α_3) is negative and highly significant.

Most importantly, the regression analysis indicates that UNE-P competition increases BOC net investment, with each UNE-P line increasing net investment by \$759 per year. In June 2002, UNE-P lines summed to about 6.8 million (in BellSouth, SBC, and Verizon regions), implying UNE-P competition translates into about \$5.2 billion in additional net investment.²⁹ (As of December 2002, UNE-P lines totaled 10.1 million across all regions.)³⁰ At the end of 2002, BOC total net investment was \$81.1 billion, so UNE-P competition increases net investment by about 6.4% (on average).³¹ While UNE-P competition is related to increased investment at the state level, this finding does not imply total investment was higher. BOC net plant grew by about 3% in 2001, but fell by 7% in 2002. However, absent UNE-P, BOC net investment would have fallen even more in 2002, with an expected total decline of about 13%. Thus, UNE-P attenuated investment declines by about 50% (= 6.4%/13%). No growth in investment would have been realized in 2001 absent UNE-P competition, based on the 4.2 million UNE-P lines in 2001 (measured in June of that year).

Quantifying the impact of alternative forms of entry – primarily UNE-L (loops purchased without switching and transport) and Total Service Resale – is accomplished by incorporating data for these forms of entry to our dataset. Adding variables for these alternate forms of entry to the analysis indicates that neither is a statistically significant determinant of BOC net investment, and we cannot reject the hypothesis that the coefficients UNE-L and Total Service Resale are jointly zero (i.e., the variables do not improve the explanatory power of the regression).³² Thus, the data indicate that UNE-L and resale do not stimulate investment by the

²⁹ The calculation assumes constant returns.

³⁰ See FCC Form 477 data and UNE-P Fact Report, January 2003 (Pace Coalition: www.pacecoalition.org).

³¹ ARMIS Form 43-01, Average Net Investment, Subject to Separations (all BOCs).

³² The models are identical to Models 1 and 2 except that UNE-L and Total Service Resale lines are included as additional regressors. A table summarizing the results is available upon request.

BOCs.³³ The coefficient for UNE-P ($\Delta U, \alpha_2$) remains statistically significant at better than the 5% level for both model specifications (Models 1 and 2). The findings are sufficiently similar that we forgo a detailed discussion of the results.

IV. Conclusion and Policy Recommendations

The empirical evidence is mounting against the claim that the pro-competitive unbundling policies of the 1996 Act have reduced investment in the telecommunications industry. In this POLICY BULLETIN, UNE-P competition is shown to positively affect BOC net investment. So, while BOC net investment may be down relative to previous years due to economic conditions and other factors, *UNE-P itself exerts a positive influence on investment*. Thus, it appears that factors other than UNE-P are fully responsible for the lower investment levels by the BOCs in 2002. In fact, UNE-P competition is shown to offset investment reductions in 2002 by about 50%. Overall, each UNE-P line increases BOC investment by about \$759 per year. Alternative forms of entry - UNE-L and Total Service Resale - are found to have no effect on BOC net investment.

Since the *USTA* decision, there has been much discussion about the costs and benefits of unbundling, with the effects of unbundling on investment receiving the most attention. The benefits of unbundling - and in particular UNE-P - are undeniable. Millions of households are now purchasing service from competitor suppliers of local telephone service and price competition in the industry is increasingly intense.³⁴ New, advanced services are being developed and deployed across the country, with UNE-P providers contributing substantially this innovation. With regard to investment, the weight of the empirical research indicates that there is nothing to fear from unbundling and UNE-P. The empirical evidence consistently shows that unbundling stimulates investment by both entrants and incumbents implying that investment and unbundling are more like complements than substitutes. We find no evidence, in our own analyses or that of others, that unbundling or UNE-P reduce investment.

Accordingly, the current cynicism, ideological bias and outright ignorance towards UNE-P and TELRIC pricing must come to an end.³⁵ Like it or not, "Congress passed a ratesetting

³³ The expected effect of UNE-L on BOC investment is ambiguous. Because UNE-L does not require switching, BOC investment in switching plant should decline. Alternately, CLEC switches typically use BOC high capacity circuits for transport and require colocation space, both of which may require BOC investment (non-recurring charges suggest investment is probably required).

³⁴ FCC Status of Local Competition Report (rel. 3 June 2003) (available at www.fcc.gov/wcb/stats).

³⁵ *Powell Expects "Triennial Review" Order To Be Released Monday*, TRDAILY (June 25, 2003) (Powell "also joked about the unbundled network element-platform (UNE-P) when discussing the popularity of wireless 'hot spots.' 'Really, these hot spots are great,' he said. 'You just walk right up and get access for next to nothing. Sort of like (Footnote Continued....)

statute with the aim not just to balance interests between sellers and buyers, *but to reorganize markets by rendering regulated utilities' monopolies vulnerable to interlopers, even if that meant swallowing the traditional federal reluctance to intrude into local telephone markets.*"³⁶ As TELRIC does not result in confiscatory rates (if anything, they still remain on the "creamy" side in many jurisdictions³⁷), the growing push for BOC sector-specific relief (and, *a fortiori*, a decline in competitive pressures) is specious at best and raises troubling indications of regulatory capture at worst.

If policymakers really want to maximize consumer welfare by protecting competition and not individual competitors (*i.e.*, the BOCs), then U.S. policymakers should stop dreaming that a monopolist will change its spots and invest in new facilities if only it received relief from "pesky" competitive pressures. Instead, if policymakers focus on their core and interrelated statutory mandates – *i.e.*, (a) prevent dominant firms under their jurisdictions from exercising their market power by raising prices and restricting output; and (b) reduce entry barriers for new firms – then we might just get out of the current telecoms slump before it is too late.

UNE-P.""); Kathleen Q. Abernathy, *My View from the Doorstep of FCC Change*, 54 FED. COM. L.J. 199, 206-7 (2002) ("Excessive sharing of facilities destroys the investment incentives of both incumbents and new entrants alike: rational incumbents avoid risking capital on new facilities if rivals can get a free ride, and rational entrants will refrain from deploying their own facilities if they have unrestricted access to incumbents' networks at cost-based rates. This stifling of investment incentives is all the more problematic where supposedly "cost-based" rates are, as in some cases, based on a model that makes unrealistic economic assumptions and accordingly turn out to be *below* actual cost. In striving to stimulate *some* form of local telephone competition, by creating expansive resale and unbundling opportunities, we have adopted rules that have failed to engender, and may have actually hampered, *facilities-based* competition—which is the most viable strategy in the long term and the one most likely to benefit consumers.") (emphasis in original); James J. Cramer, *Wrong Guys Victorious at FCC Today*, THESTREET.COM (20 February 2003).

³⁶ *Verizon v. FCC*, *supra* n. 3 at 1661 (emphasis supplied).

³⁷ See PHOENIX CENTER POLICY PAPER NO. 16, *supra* n. 3.

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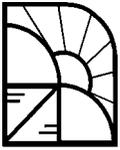
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PHOENIX CENTER POLICY BULLETIN NO. 4

24 June 2003

THE TRUTH ABOUT TELECOMMUNICATIONS INVESTMENT

Summary of Findings: An analysis of investment by telecommunications firms before and after the 1996 Telecommunications Act reveals substantial increases in the level of investment and capital stock for this sector following the enactment of this important legislation. There is no evidence that the 1996 Act reduced investment, and capital stock in the industry is at its historical peak. Indeed, the data shows some \$267 billion in additional investment, more than \$95.3 billion annually, in the five years following passage of 1996 Act. Despite recent declines in investment in the industry caused in part by the near total collapse of facilities-based CLECs, telecommunications investment remains well above historical levels.

I. Introduction

With the Telecommunications Act of 1996, Congress passed a statute “with the aim not just to balance interests between sellers and buyers, but to reorganize markets by rendering regulated utilities monopolies vulnerable to interlopers.”¹ Even though consumers increasingly continue to see benefits resulting from the competition produced by the 1996 Act,² reports by organizations such as the Progress and Freedom Foundation, the New Millennium Research Council, and the Competitive Enterprise Institute all blame the 1996 Act for a supposed decline in telecommunications investment.³ None of these reports, however, provide anything akin to a

¹ *Verizon v. FCC*, 122 S. Ct. 1646, 1661 (2002).

² FCC Status of Local Competition Report (rel. 3 June 2003) (available at www.fcc.gov/wcb/stats).

³ Recent examples of Bell-funded reports include S. B. Pociask, *The Effects of Bargain Wholesale Prices on Local Telephone Competition: Does Helping Competitors Help Consumers?*, New Millennium Research Council and Competitive Enterprise Institute (June 2003) and J. A. Eisenach and T. M. Lenard, *Telecom Deregulation and the Economy: The Impact of UNE-P on Jobs, Investment and Growth*, Progress & Freedom Foundation, PROGRESS ON POINT, RELEASE 10.3 (Jan. 03).

(Footnote Continued....)

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thorough industry-wide analysis of the effects of the 1996 Act on investment by telecommunications firms.⁴ This POLICY BULLETIN attempts to accomplish this important task.

This Policy Bulletin employs data from the U.S. Bureau of Economic Analysis (www.bea.gov) to evaluate the effect of the 1996 Act on investment. The Bureau of Economic Analysis is responsible for collecting and presenting to the public massive amounts of economic data, including data on real investment and net capital stocks by industry sector. These detailed data can be used to evaluate the effects of the 1996 Act on the investment by (and the capital stock of) telecommunications firms. The data are available at no charge at the BEA website, and no adjustments are made to the data for this analysis.

An analysis of investment by telecommunications firms before and after the 1996 Telecommunications Act reveals substantial increases in the level of investment and capital stock for this sector following the enactment of this important legislation. There is no evidence that the 1996 Act reduced investment, and capital stock in the industry is at its historical peak. Despite recent declines in investment in the industry (caused in part by the near total collapse of facilities-based CLECs), telecommunications investment remains well above historical levels. These findings are consistent with the findings of the U.S. Supreme Court in its landmark decision of *Verizon v. FCC*, where the Court specifically held that the Bell monopolists' arguments that the 1996 Act, and TELRIC pricing in particular, does not produce new telecommunications investment patently "founders on fact."⁵ In the Court's own words, it "suffices to say that a regulatory scheme that can boast such substantial competitive capital

None of these reports contains original research related to this issue. The decline in investment is most frequently attributed to UNE rates. For a thorough analysis of UNE rates and their relation to Bell costs, see T. R. Beard and C. C. Klein, *Bell Companies as Profitable Wholesale Firms: The Economic Implications of UNE-P*, PHOENIX CENTER POLICY PAPER NO. 17 (Nov. 2002); T. R. Beard and G. S. Ford, *What Determines Wholesale Prices for Network Elements in Telephony? An Econometric Evaluation*, PHOENIX CENTER POLICY PAPER NO. 16 (Sept. 2002); and T. R. Beard, G. S. Ford, and C. C. Klein, *The Financial Implications of the UNE-Platform: A Review of the Evidence*, COMMLAW CONSPECTUS (forthcoming Fall 2003) [papers are available at www.phoenix-center.org and www.telepolicy.com].

⁴ These studies typically rely on investment analysts' estimates and forecasts of year-to-year changes in investment by particular telecommunications firms (or groups of such firms). More importantly, these reports ignore a basic economic fundamental: absent competitive pressure, it will be a fool's errand to think that a Bell monopolist will ever on its own initiative invest in new facilities beyond those minimally necessary to ensure that quality of service obligations are barely met (and sometimes not even that). See, e.g., TR STATE NEWSWIRE, *New York – PSC Orders Audit, Suspends Pricing Flexibility for Verizon* (19 June 2003); *Qwest Sustains Service Quality Improvements but Faces \$725,000 in Potential Fines for Past Violations*, Oregon Public Service Commission Press Release 2001-008 (February 16, 2001); *Ameritech Under More Scrutiny*, THE DIGEST (Dec. 12, 2001); *Pac Bell Faces Fines*, THE DIGEST (Dec. 12, 2001); *Opinion & Order*, Ohio Public Service Commission 99-0938-TP-COI (July 20, 2000); Mark Harrington, *State: Verizon's Service Declining*, NEWSDAY.COM (May 23, 2003); see also, PHOENIX CENTER POLICY BULLETIN NO. 3, *The Broadband Loophole: Is Symmetrical Regulation in the Face of Asymmetrical Market Power Good Public Policy?* (19 March 2003) (<http://www.phoenix-center.org/PolicyBulletin/PolicyBulletinNo3.pdf>).

⁵ *Supra* n. 1 at 1675.

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spending over a 4-year period is not easily described as an unreasonable way to promote competitive investment in facilities.”⁶ Equally as important, the Majority in *Verizon* found that the evidence does not support Justice Breyer’s assertion in his dissent that TELRIC will stifle incumbents’ incentive either to innovate or to invest in new elements. As both the Majority and Justice Breyer in his dissent noted, incumbent Bell monopolies have invested over \$100 billion since the passage of the 1996 Act, thus affirming “the commonsense conclusion that so long as TELRIC brings about some competition, the incumbents will continue to have incentives to invest and to improve their services to hold on to their existing customer base.”⁷

II. Analysis

Figure 1 displays real investment by telecommunications carriers between the years 1980 and 2001 (2002 data is not yet available).⁸ Plainly, investment by telecommunications firms skyrocketed after the passage of the 1996 Act.⁹ From 1980 through 1995, investment by telecommunications firms grew at an annual rate of 2.8%, with average investment level of about \$38.8 billion.¹⁰ After the 1996 Act, investment by telecommunications firm has grown at an average annual rate of 22.3%, with \$95.3 billion invested annually (on average) for a total of about \$572 billion during this time. Based on the difference between actual (\$572 billion) and forecasted levels of investment (\$305 billion), the 1996 Act is estimated to have generated \$267 billion in additional telecommunications investment from 1996 through 2001.¹¹ The government

⁶ *Id.* at 1675-76.

⁷ *Id.* at 1676, n. 33.

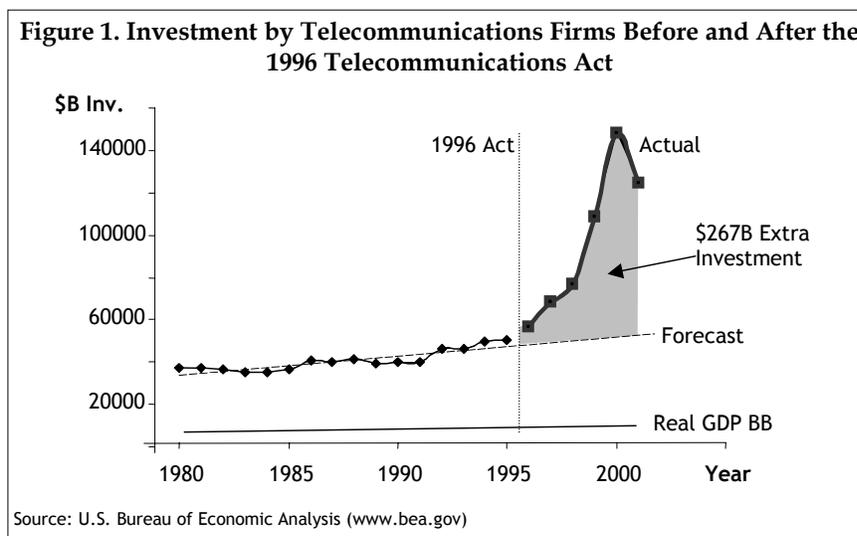
⁸ For the computation of real investment (versus nominal), the base year is 1996.

⁹ Recent econometric analysis indicates that investment by telecommunications firms *does not cause* economic growth, but *is caused by* economic growth. See R. O. Beil, G. S. Ford, and J.D. Jackson, *On the Relationship between Telecommunications Investment and Economic Growth in the United States* (June 2003) (www.telepolicy.com). Some research suggests telecommunications and/or information technology investment contributes positively to Gross Domestic Product and productivity, but these studies do not focus solely on investment by telecommunications firms and typically evaluate the effects of capital stock rather than investment. See, e.g., D. W. Jorgenson, *Information Technology and the U.S. Economy*, 91 AMERICAN ECONOMIC REVIEW 1-32 (2001) and S. D. Oliner and D. E. Sichel, *The Resurgence of Growth in the Late 1990s: Is Information Technology the Story?*, 14 JOURNAL OF ECONOMIC PERSPECTIVES 3-22 (2000). Investment by telecommunications firms represents only 16% of total IT investment (based on BEA data).

¹⁰ Piecewise regression confirms that the pre- and post-Act investment levels and growth rates are statistically different. The regression estimates pre- and post-Act growth rates of 2.8% and 22.3% (coefficients 0.028 and 0.194 with statistically significant t-statistics of 7.51 and 5.97, respectively). For a simple explanation of piecewise regression, see R. S. Pindyck and D. L. Rubinfeld, *ECONOMETRIC MODELS & ECONOMIC FORECASTS* (1991), p. 118.

¹¹ Forecast values for the post-Act period are computed using a linear time trend. If a one-period lag model with drift is used to forecast the post-Act levels of investment, the contribution of the Act to investment is \$260 billion. Alternate forecast methods do not produce meaningfully different results, since the linear trend is a good approximation of pre-Act investment levels.

data provides no support for the claim that the 1996 Act reduced investment by telecommunications firms.



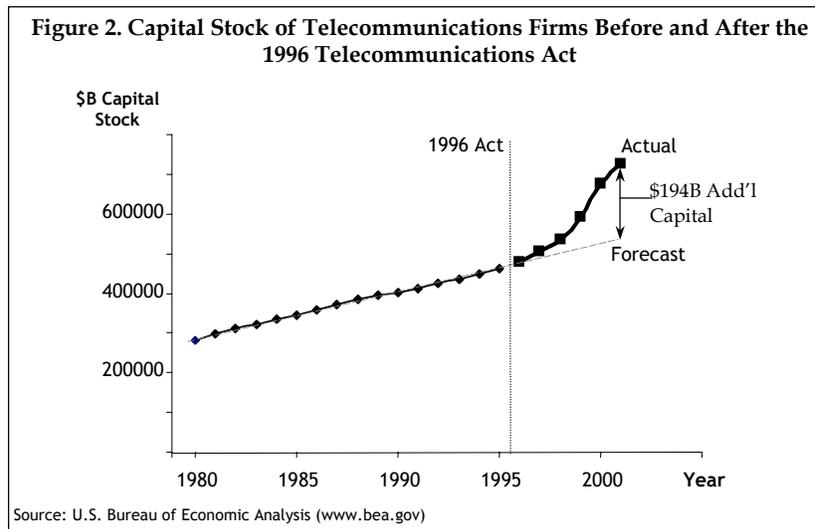
Beil *et al.* (2003) find that growth in the economy *causes* investment in the telecommunications sector (but investment by telecommunications firms *does not cause* economic growth).¹² Thus, an interesting question is whether or not higher economic growth in the post-1996 Act period explains the unprecedented rise in investment by telecommunications firms. An analysis of the growth rate of Gross Domestic Product (“GDP”) indicates that pre- and post-1996 Act GDP growth rates are not different, suggesting that economic growth is not responsible for the increase in telecommunications investment.¹³ Real GDP (in billions) is illustrated in Figure 1, and it is apparent that no dramatic shift in GDP occurs between the pre- and post-Act periods.

The increased investment in telecommunications firms following the 1996 Act naturally resulted in a rise in the (real) capital stock of telecommunications firms, as shown in Figure 2.

¹² Beil *et al.* (2003), *supra* n. 3.

¹³ GDP growth averaged about 3% over the period and growth was not statistically different between the pre- and post-Act periods. Including GDP in a regression of investment growth does not alter the result that investment by telecommunications firm rose sharply after the Act. GDP and the time trend are highly correlated ($\rho = 0.991$), so neither the pre-Act growth rate and GDP are statistically significant in a regression indicating both variables (the post-1996 Act growth rate is, however). Both the pre- and post-1996 Act growth rates in investment are positive and statistically significant relative to GDP, however, with post-Act growth exceeding pre-Act growth by 400%.

Prior to the 1996 Act, the capital stock of telecommunications firm grew on average at an annual rate of 3.0%, whereas after the 1996 Act the annual increase in the stock is 7.9%.¹⁴ Based on a 1980-1995 historical trend, the 1996 Act led to a \$194 billion increase in the capital stock by the end of 2001. The capital stock has not declined post-Act, and remains substantially above trend (about 36% above the forecast level).



III. Conclusion

To borrow a pun, reports of the death of telecommunications investment are greatly exaggerated. A simple examination of the data reveals that investment by telecommunications firms rose sharply after the 1996 Act, and the capital stock of these firms remains substantially above forecasted levels. These considerable changes in investment behavior are confirmed with statistical analysis, though visual inspection is compelling enough.

Unfortunately, the sluggish U.S. economy will continue to slow investment across many, if not most, sectors of the economy, and telecommunications firms will no doubt be affected. Nevertheless, with the introduction of competition, along with its constant companion innovation, a reasonable expectation is that investment by telecommunications firms will continue to be above historical levels.

¹⁴ Piecewise regression confirms that the pre- and post-1996 Act changes in the capital stock are statistically different (t-statistics of the estimated coefficients are 28.4 and 12.0, respectively).

EXHIBIT C

The Financial Implications of the UNE-Platform: A Review of the Evidence

by

T. Randolph Beard, George S. Ford, and Christopher C. Klein

Recent reports on the financial consequences of UNE-P sales for Bell Operating Companies have drawn additional attention to long-standing complaints by the BOCs that such sales are confiscatory, and amount to “subsidized competition.” This paper subjects the conclusions of these claims and the financial studies upon which they are based to careful scrutiny, and finds that they are largely without merit. Errors in both the calculation of unbundled element revenues, and in the wholesale costs of providing unbundled elements, are identified. Using actual payments by a representative CLEC and publicly available ARMIS expense data, we obtain realistic revenue and current cost figures usable for financial analyses. Our analysis suggests that the wholesale business, taken alone, is profitable for the BOCs.

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The Financial Implications of the UNE-Platform: A Review of the Evidence*

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George S. Ford, PhD
Christopher C. Klein, PhD

Abstract: Recent reports on the financial consequences of UNE-P sales for Bell Operating Companies have drawn additional attention to long-standing complaints by the BOCs that such sales are confiscatory, and amount to “subsidized competition.” This paper subjects the conclusions of these claims and the financial studies upon which they are based to careful scrutiny, and finds that they are largely without merit. Errors in both the calculation of unbundled element revenues, and in the wholesale costs of providing unbundled elements, are identified. Using actual payments by a representative CLEC and publicly available ARMIS expense data, we obtain realistic revenue and current cost figures usable for financial analyses. Our analysis suggests that the wholesale business, taken alone, is profitable for the BOCs.

* An earlier version of this paper appeared as Phoenix Center Policy Paper No. 17 (www.phoenix-center.org). The estimation methodology has changed significantly from the earlier version, and follows George S. Ford, *The Myth of Below Cost UNE Prices*, Unpublished Manuscript (Feb. 2003), www.telepolicy.com. Beard: Professor of Economics, Auburn University. Ford: Chief Economist, Z-Tel Communications. Klein: Professor of Economics, Economics and Finance Department, Middle Tennessee State University, Murfreesboro, Tennessee, and former Chief Economist for the Tennessee Regulatory Authority. We thank Larry Spiwak for helpful comments, and for preparing the manuscript for publication, are we are grateful to Bob Loube for his comments, suggestions, and criticism provided to us during his effort to replicate the analysis. Any remaining errors are the responsibility of the authors.

I. Introduction

The primary purpose of the Telecommunications Act of 1996 ("1996 Act") was to promote competition in the local exchange telecommunications marketplace – the last vestige of the telecommunications monopoly.¹ Congress aimed to alter the competitive landscape of local telecommunications by splitting the integrated local phone market into its wholesale and retail components.² In the post-1996 Act environment, firms seeking to offer retail local telephone services need not construct a local exchange network, but may offer services by acquiring the necessary facilities in a "wholesale market" where such facilities are bought and sold.

When the 1996 Act was signed into law in February 1996, however, there was only one firm capable of supplying the wholesale market (in each local market) – the incumbent local exchange carriers or "ILECs." A similar situation persists today. Consequently, the wholesale prices of these wholesale monopolists were to be regulated and based on "cost."³ "Cost" was defined by the Federal Communications Commission ("FCC") as total element long run incremental cost ("TELRIC"), which was described in the FCC's *First Report and Order* in August of 1996.⁴

¹ See S. 652, H. Rpt. 104-458, 104th Cong., 2d Sess. (1996).

² See *Verizon Communications Inc. v. FCC*, 122 S. Ct. 1646, 1662 (2002) ("Congress aim[ed] to ... reorganize markets." "[W]holesale markets for companies engaged in resale, leasing, or interconnection of facilities cannot be created without addressing rates. * * * The Act...favor[ed]...novel rate setting designed to give aspiring competitors every possible incentive to enter local retail telephone markets"). For a full discussion of the *Verizon* Opinion and the current FCC broadband initiatives, see Lawrence J. Spiwak, *The Telecoms Twilight Zone: Navigating the Legal Morass Among the Supreme Court, the D.C. Circuit and the Federal Communications Commission*, PHOENIX CENTER PAPER SERIES NO. 12 (August 2002) (<http://www.phoenix-center.org/pcpp/PCPP13Final.pdf>); COMMUNICATIONS WEEK INTERNATIONAL, *Opinion: U.S. Competition Policy – The Four Horsemen of the Broadband Apocalypse* (01 April 2002) (available at <http://www.phoenix-center.org/commentaries/CWIForsemen.pdf>).

³ Section 252(d)(1) of the 1996 Telecommunications Act states, "rates for the interconnection of facilities and equipment ... shall be ... based on the cost of providing the interconnection or network element....").

⁴ *In re Implementation of the Local Competition Provisions in the Telecommunications Act of 1996*, First Report & Order, 11 FCC Rcd 15499 (1996) (*Section 251 Order*).

While the FCC defined the cost standard, it was the State regulatory commissions that were assigned the task of implementing the standard.⁵ Wholesale prices for unbundled network elements (“UNEs”) – that is, the network facilities retail providers “buy” from the ILEC – have been and continue to be determined in evidentiary hearings before each state’s respective regulatory commission.⁶

The 1996 Act has led to increased competition in many local telecommunications markets, though generally not to the extent many had hoped.⁷ Today, the combination of unbundled elements called “UNE-P” or “UNE-Platform” – a combination of unbundled loops, switching, transport, and signaling -- is the most successful mode of competitive entry created by the 1996 Act, and its growth substantially exceeds the alternative modes of entry.⁸ This success has brought UNE-P under attack by the Bell Operating Companies (“BOCs”), and their assault on the successful entry mode is multifaceted.⁹

⁵ *Id.* at ¶28 (“The 1996 Act requires the States to set prices for interconnection and unbundled elements that are cost-based, nondiscriminatory, and may include a reasonable profit.”)

⁶ Letter from Commissioners Joan Smith and Robert Nelson (Chair and Co-Chair of the National Association of Regulatory Utility Commissioners, Telecommunications Committee) to the Honorable Thomas Daschle (September 27, 2002).

⁷ Yochi J. Dreazen, *FCC, Faced with Telecom Crisis, Could Let a Bell Buy Worldcom*, WALL STREET JOURNAL (July 15, 2002) at A-1.

⁸ *UNE-P Fact Report*, Pace Coalition (January 2003).

⁹ *See, e.g.*, TR DAILY (9/6, 9/10, 9/11, 9/13, 9/17, 9/18, 9.24, 9/25, 9/26, 9/27); Glenn Bischoff, *USTA Calls For the End of UNE-P, TELRIC*, TELEPHONYONLINE.COM (Sept. 13 2002). *See also* 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.” *Washington Telecom Newswire* (September 9, 2002) (According to Verizon CEO Ivan Seidenberg: “State commissions don’t get it. They don’t have a clue because they are trapped” in an old view of regulatory policy.”) Such criticisms are particularly puzzling given that the Bells’ publicly reported to the FCC that States imposed TELRIC pricing as a pre-condition of receiving authority under Section 271 of the Telecommunications Act to provide in-region inter-LATA service. *See, e.g.*, *Ex Parte* Presentation, Messrs. I. Seidenberg, W. Barr, and T. Tauke and Ms. D. Toben, representing Verizon, met separately with Chairman Powell and Mr. C. Libertelli, Commissioner Abernathy and Mr. M. Brill, Commissioner Copps and Mr. J. Goldstein, and Commissioner Martin and Mr. D. Gonzales (Ms. Toben did not attend this meeting), WC Docket No. 01-202, Verizon Petition for Emergency Declaratory and Other Relief; CC Docket No. 01-338 Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers; CC Docket No. 96-98, Implementation of the Local Competition Provisions in the Telecommunications Act of 1996; and CC Docket No. 98147, Deployment of Wireline Services (Footnote Continued. . . .)

First, the BOCs argue that UNE-P deters Competitive Local Exchange Carrier (“CLEC”) investment and deployment of switching equipment. This claim, however, does not survive econometric scrutiny.¹⁰ Second, and more recently, the BOCs have begun to criticize the State regulatory commissions by accusing the commissions of incorrectly applying TELRIC in their determinations of wholesale prices.¹¹ One claim is that the State commissions disregard “true” costs when they set wholesale prices, and instead choose wholesale prices that ensure sizeable margins for CLEC entrants.¹² Again, empirical evidence does not support the BOCs’ claim in this regard.¹³

An alternate but related claim is that wholesale prices for UNE-P do not cover the BOCs’ actual operational costs for supplying a switched access line.¹⁴ Financial analysts have fueled the BOCs’ claims against UNE-P, suggesting that revenues from UNE-P are insufficient to cover operating costs, but the accuracy

Offering Advanced Telecommunications Capability, August 16, 2002, at 16. *See also* CCMs (2002) and UBSWarburg (2002).

¹⁰ *See* T.R. Beard, G. S. Ford, and T.M. Koutsky, *Mandated Access and the Make-or-Buy Decision: The Case of Local Telecommunications Competition*, Unpublished Manuscript (2002): www.telepolicy.com; Z-Tel paper No. 4 (2002): www.telepolicy.com.

¹¹ TR DAILY (Sept 27 2002) (reporting that Qwest wrote a letter to FCC Chairman Michael Powell claiming that “wide gulf separates TELRIC as it was originally conceived from TELRIC as it is now being applied in many States.”); TR DAILY Sept. 11, 2002 (SBC says some of the key inputs being used in State cost proceedings are “at odds with market realities and inconsistent with the core assumptions inherent in TELRIC itself.”); Bell South *Ex Parte* (Aug 28, 2002) CC Docket No. 01-338 (“Some State PSCs have abandoned any semblance of cost (including TELRIC) in setting wholesale rates”).

¹² *See, e.g.*, SBC Press Release (September 17, 2002), *supra* n. 7; *see also* TR DAILY Sept. 11 2002, further quoting Mr. Daley as stating that in some cases, State regulatory commissions “make no attempt even to determine the correct input” for the TELRIC model, Mr. Daley charged. “Instead, they choose inputs that will achieve a predetermined end-result: a TELRIC rate that will give AT&T the 45% margin it demands before it will enter local markets” using the unbundled network element platform (UNE-P).; *accord*, Bell South *Ex Parte* Aug. 28, 2002 (“Some State PSCs have abandoned any semblance of cost (including TELRIC) in setting wholesale rates, and instead are increasing resale discounts to levels that AT&T and other CLECs claim they need to operate profitably in residential markets.”)

¹³ T. Randolph Beard and George S. Ford, *What Determines Wholesale Prices for Network Elements in Telephony? An Econometric Evaluation*, PHOENIX CENTER PAPER NO. 16 (September 2002) (<http://www.phoenix-center.org/pcpp/PCPP16.pdf>).

¹⁴ *See, e.g.*, SBC Press Release (September 17, 2002), *supra* n. 7; *see also* Verizon *Ex Parte* (Aug. 16, 2002), CC Docket No. 01-338.

of the calculations made by these analysts on both the revenue and cost-side of the issue has been questioned.¹⁵

We consider the claims of the BOCs, and the related claims of the financial analysts' reports, in this paper. Specifically, we provide revenue and cost estimates for the BOCs' switched access lines at both the retail and wholesale level. Our approach is more direct than that of the financial analysts who have typically used completely arbitrary means by which to infer costs. Since public data allows for the more direct calculation of wholesale operating costs, the degree of arbitrariness can be reduced substantially. Further, the cost detail provided in the data allow for better estimates of avoided costs, since certain expenses are avoided (*e.g.*, billing, marketing, and customer service) while others are passed along to the CLEC serving the customer (*e.g.*, access charges).¹⁶

The relationship between UNE-P revenues and wholesale costs requires estimates of revenues. UNE-P revenues realized by the BOCs, however, are not easily computed, at least not correctly. To evaluate the reasonableness of the BOCs' claims regarding UNE-P and "actual" costs, we rely on actual, per-line payments to BOCs by a CLEC using UNE-P to provide service in 46 states. The service offerings of this CLEC are comparable to other CLECs and it provides wholesale services to numerous, large CLECs.¹⁷ Thus, we have no reason to believe this choice materially affects the findings of the analysis.

The balance of this paper is outlined as follows. In Section II, we briefly discuss the relationship between TELRIC and current operating cost. Generally, TELRIC does not address the revenues needed to cover current or embedded operational costs or depreciation. TELRIC derived prices may or may not cover

¹⁵ PHOENIX CENTER PAPER NO. 16, *supra* n. 11; *Ex Parte* Letter to FCC Chairman Michael Powell from Robert Curtis and Thomas Koutsky, Z-Tel Communications, Inc., Docket No. 01-338 (Sept. 23, 2002); Letter to FCC Chairman Michael Powell from Donna Sorgi, Worldcom Inc., in Docket No. 01-338 (September 16, 2002). The financial analysts' reports include *Status & Implications of UNE-Platform in Regional Bell Markets*, Capital Commerce Markets, (November 1, 2001 and August 22, 2002); *How Much Pain From UNE-P?* Global Equity Research, UBS Warburg (Aug. 20, 2002); *Telecom Act Seven Years On – The UNE Shock Wave Belatedly Reverberates Around the RBOCs – And How!* Merrill Lynch (Sept. 23, 2002).

¹⁶ Access charges are paid by long distance carriers to local exchange calls when originating or terminating a long distance call.

¹⁷ Kris Hundley, *Venture with MCI gives Z-Tel a boost*, St. Petersburg Times, Online Business (March 22, 2002); *Z-Tel and Sprint Sign Agreement for Wholesale Services*, Business Wire (Feb. 4, 2003).

such costs. Thus, the BOCs' claims regarding wholesale prices and profit margins based on embedded costs have no meaningful connection to the correct application of TELRIC. Next, in Section III, we present estimates for the BOCs' per-line revenues for UNE-P. We then describe our computation of wholesale costs in Section VI. Computed gross and net profit margins are presented in Section IV. We ignore the implications of long-distance margins on the BOCs' financials. Our approach focuses solely on the BOC as a wholesale provider of local telecommunications plant. The broader policy issues related to competition across telecommunications markets are left for others to debate. In Section V, we briefly consider the validation of our findings. Concluding comments are provided in Section VI.

II. Current Costs, Embedded Costs, and TELRIC

Recent financial analyses by Commerce Capital Markets ("CCM"), Merrill-Lynch ("ML"), and UBS Warburg ("UBS") have focused attention on the general charge by BOCs that UNE-P pricing is "confiscatory" (*i.e.*, a rate set by government that is below costs and therefore constitutes an unlawful takings under the Constitution).¹⁸ While economists are unlikely to be fully convinced by such analyses (relying, as they do, on the validity of accounting cost data and other strong assumptions), any finding of consistently negative margins for element sales is a cause for concern, regardless of these caveats. Thus, it is worthwhile to evaluate some recent findings on this point in order to highlight the extent to which official concern is warranted.

The issue of the remunerative quality of UNE-P sales by the BOCs highlights several important points relevant to any financial analysis of firm activity. First, for reasons that need not be repeated here, caution should be attached to all such analyses that utilize accounting (rather than economic) costs.¹⁹ In general, accounting costs are not equal to economic costs, and profitability in the *economic* sense is the appropriate yardstick for, and basis of, firm decisions. Nevertheless,

¹⁸ For a primer on basic ratemaking principles, see Mark Naftel and Lawrence J. Spiwak, *THE TELECOMS TRADE WAR: THE UNITED STATES, THE EUROPEAN UNION AND THE WTO* (Hart Publishing 2000).

¹⁹ For a general discussion on the use of accounting data, see Stephen Martin, *ADVANCED INDUSTRIAL ECONOMICS* (1993), Ch. 17.

we calculate and present the gross (EBITDA) and net profit margins in what follows.²⁰

Second, aggregation will play an important role in our analysis, as it does in the financial analysts' reports we evaluate here. From a theoretical point of view, however, any claim that element sales are "below costs," somehow defined, must be understood as amounting to a claim that "some set of elements are, in fact, sold on below cost terms." The claim that an element could be sold "below cost" is financially irrelevant if no one actually buys the element, or buys the element in combination with other elements priced above costs. Further, elements sold for prices above costs, but below cost-plus-seller-rents, will "damage" the seller financially, in the same manner that a monopolist forced to yield its position is damaged. Damage of this sort is presumably not a public concern *per se*. These distinctions are largely unaddressed in the financial reports.

Also, as a matter of economic theory, TELRIC pricing is not designed to reimburse the element seller for "actual" or "embedded" costs.²¹ Such embedded costs reflect the cumulative sum of the economic costs of resources acquired by the BOC over time, not the economic cost or "value" of the elements that were created with those resources. For example, a \$10 steak burned to a crisp is not worth \$10, since one could obtain the result – a lump of carbon – for less than \$10. Nor is a 100-megahertz computer worth \$1,000 today, despite the fact it sold for that amount a few years ago. In general, the economic cost of a product is the cost of the resources required by an efficient producer to *duplicate* all the valued services provided by that product.

The determination of wholesale prices for unbundled elements (particularly UNE-P) by State commissions has itself been the subject of recent research (Beard and Ford 2002).²² Although Beard and Ford (2002) show that prices are not

²⁰ EBITDA is defined as earnings before interest, taxes, and depreciation/amortization.

²¹ See *Section 251 Order supra* n. 3 ("Forward-looking cost methodologies, like TELRIC, are intended to consider the costs that a carrier would incur in the future" (¶ 682); "We read section 252(d)(1)(A)(i) to prohibit States from conducting traditional rate-of-return or other rate-based proceedings to determine rates for interconnection and access to unbundled network elements" (¶ 703); ("We reiterate that the prices for the interconnection and network elements critical to the development of a competitive local exchange should be based on the pro-competition, forward-looking, economic costs of those elements, which may be higher or lower than historical embedded costs" (¶ 704)).

²² See *supra* n. 13.

determined by either the BOCs' embedded costs or retail prices, the authors provide evidence that many State commissions set wholesale prices at a point about halfway between forward-looking costs (economic cost) and forward-looking cost plus the average retail margin. This latter value approximates the efficient component pricing rule ("ECPR") price, ignoring the lack of competition that gives rise to the relevant economic rents (*i.e.*, profits, loosely defined).²³ Thus, while it is correct that TELRIC does not provide a mechanism for embedded cost recovery, it has been modified in practice to allow price increases that compensate the seller for a portion of retail margins.

Thus, the impact of element sales on BOC financial performance is a complex matter. BOC resistance to such sales is proof that the sales reduce BOC profits. Competition inevitably erodes excess profits and this is desirable for everyone except for the BOC (and, potentially, its shareholders).²⁴ Financial analysts, such as those who produced the Merrill-Lynch analysis, are paid to advise investors, not to promote social welfare or competition. However, the BOC campaign against the current UNE-P environment seems to suggest that element sales actually threaten the financial solvency of the BOCs. Such solvency does depend on embedded costs, of course, as debt is a current obligation for the past use of resources.

In this paper, we calculate BOC margins for UNE-P sales that include embedded costs as contained in cost data given to the FCC by the BOCs in order to credibly evaluate the implication of the recent analysts' studies that UNE-P is unprofitable for the BOCs. This analysis allows a credible evaluation of the conclusion implied by recent Wall Street financial analysts' reports that UNE-P is unprofitable for the BOCs, potentially leading to under-investment and financial ruin for these telecommunications giants. We endeavor to measure revenues and costs as accurately as possible given the data sources available to us. In this way, we hope to shed light on the current debate over this matter, and potentially raise the sophistication of future studies on this topic by the financial community.

²³ According to the ECPR, "the access fee paid by the rival to the monopolist should be equal to the monopolist's opportunity costs of providing access, including any forgone revenues from a concomitant reduction in the monopolist's sales of the complementary component." Nicholas Economides and Lawrence J. White, *Access and Interconnection Pricing: How Efficient is the Efficient Component Pricing Rule?* 40 ANTITRUST BULLETIN (1995), p. 557-79.

²⁴ See, *e.g.*, C.K. Prahalad and Gary Hamel, *The Core Competence of the Corporation*, HARVARD BUSINESS REVIEW (May 1, 1990).

III. BOC Revenues from Wholesale Local Exchange Services

UNE-P is a combination of numerous unbundled elements including primarily an unbundled loop, unbundled switching, and unbundled transport.²⁵ Related elements are signaling services necessary to route calls, daily usage files (describing customer calling) needed for billing purposes, and non-recurring charges levied when these elements are ordered, provisioned, or repaired.²⁶ UNE-P CLECs also pay the BOC reciprocal compensation (in some states), and many continue to use the Operator Services and Directory Assistance (“OS/DA”) of the BOC. OS/DA is purchased by the CLEC as a retail service, not as an unbundled element.²⁷ In some states, additional sources of revenue are present, such as the Operational Support Systems (“OSS”) charge of \$0.55 per line/month in New York.²⁸

A. Sources for BOC Wholesale Prices for UNE-P

In an effort to measure BOC revenues from UNE-P, we evaluate four sources of revenue data: three reports from various financial analysts and confidential data provided to the authors by Z-Tel Communications. Z-Tel Communications is a CLEC that serves customers, via UNE-P, in 46 states.²⁹ Given Z-Tel’s actual experience with UNE-P, and its ability to estimate costs directly from the bills it receives from the BOCs, we consider Z-Tel’s numbers to be the best indicator of

²⁵ The unbundled loop is a pair of copper wires that runs from the consumer’s household to the BOCs central office. Switching directs a call to the intended recipient, and if the recipient of the call is not in the same central office as the customer originating the call the call must be transported over facilities to another central office.

²⁶ The signaling network establishing a “path” between the originating and terminating phone, and ensures that the receiving phone is operational. A daily usage file is a record of call and call lengths for each individual customer. Many installation and repair services are provided to CLECs by the BOCs, and the CLECs compensate the BOCs for such services by paying “non-recurring charges.”

²⁷ *In re Implementation of the Local Competition Provisions of the Telecommunications Act of 1996, Third Report and Order and Fourth Further Notice of Proposed Rulemaking*, FCC No. 99-238, 15 FCC Rcd 3696 (rel. Nov. 5, 1999) (“UNE Remand Order”) at ¶ 441-442.

²⁸ This charge is intended to cover the expenses incurred by Verizon to allow its computer systems to handle wholesale operations. See New York Tariff #10 Sec 5.9.3.

²⁹ Letter to FCC Chairman Michael Powell from Robert Curtis and Thomas Koutsky, *supra* nt. 15.

BOC revenues from UNE-P.³⁰ That said, Z-Tel's experience might not be identical to that of other CLECs using UNE-P (*e.g.*, usage or density zone distributions may vary among CLECs). Given no indication that Z-Tel's experience is atypical for a UNE-P CLEC, we consider Z-Tel's experience to be representative.³¹

B. *Difficulties in Estimating Wholesale Prices for UNE-P*

Computing the BOCs' revenues from UNE-P is a difficult task. Financial analysts typically compute UNE-P revenues as if rates simply can be multiplied by usage and added to flat charges, but it is not that easy.³² For example, switching typically consists of a flat-rated port charge, features charges, and per-minute charges.³³ In some states (IL, IN, WI), the usage costs are included in the port charge, and in others the feature charges are included in the port charge. In other states, usage and features charges are separate from the port charge. Additionally, CLECs vary in their demands for features, and their customers are likely to vary in their usage patterns. With respect to usage, the application of specific usage charges varies by BOC, and frequently varies within a single BOC region. For example, in some states, an intra-switch call incurs two-minutes of switching per minute of conversation (*e.g.* West Virginia), while in others an intra-switch call incurs only a single minute charge per minute of use. In some states reciprocal compensation is paid by the CLEC (the former Ameritech states), whereas other states have adopted a bill-and-keep arrangement. In some Verizon states, terminating switching and reciprocal compensation are treated as offsets in a type of pseudo bill-and-keep arrangement (*e.g.*, New York). In states

³⁰ Z-Tel has adjusted its costs to reflect recent changes in wholesale prices in a number of States. In many cases, Z-Tel does not yet pay these rates to the BOCs due to lags in the incorporation of new rates into their interconnection agreements.

³¹ Data provided by SBC to the FCC indicates that Z-Tel's experience in the SBC region is typical, and that the distribution across density zones of UNE-P entry closely parallels the distribution of access lines across such zones. *See SBC Ex Parte*, CC Docket 01-338 (October 30, 2002).

³² Charges for unbundled switching typically consist of a flat monthly fee (a port charge) and a fee per minute of usage (usage based charges). There may be many applicable usage charges depending on the time-of-day the call is made and how far and what equipment the call travels through on its way to its destination. Thus, information is needed on the total number of minutes, when calls were made, and where calls were originated and terminated.

³³ Charges for switch features (caller ID, call waiting, etc.) are levied either on a per-feature or all features basis.

where switching charges are usage sensitive, the usage of the customers can matter substantially (depending on the per minute switching rate). Computing transport cost is particularly difficult, and the application of charges varies substantially across states. Transport costs, however, are generally a small portion of total UNE-P revenues (typically less than 5% for Z-Tel).³⁴

C. Revenues from Non-Recurring Activities

Non-recurring charges (“NRCs”) are another source of revenues for the BOC from UNE-P, but these revenues are frequently ignored in the analysts’ reports.³⁵ In principle, non-recurring charges compensate the ILEC for expenses associated with taking orders for and provisioning a line to a CLEC. For UNE-P, there are typically three categories of non-recurring costs. For ordering and provisioning a customer, there is either a migration NRC or a “new install” NRC. The migration NRC is paid when the customer already has service with the ILEC, whereas the “new install” NRC is paid when the customer does not have existing service.³⁶ Because ARMIS data includes all labor and provisioning expenses regardless of whether such costs relate to services provided to the ILEC itself or its CLEC customer-competitors, the costs related to ordering and provisioning services to CLECs are included in the ARMIS expense data. Because the expenses related to such activities are included in the analysis on the expense side, it is therefore necessary to include revenues from NRCs in the analysis on the revenue side.

Publicly available information from CLECs suggests that about one-third of customers are new installs, and we assume that this is typical for the purposes of our calculations.³⁷ FCC data indicates that there were 5.7 million UNE-P lines at year-end 2001.³⁸ These access lines are allocated across states based on the

³⁴ Computed by dividing transport costs by total costs using data provided the authors by Z-Tel Communications.

³⁵ CCM includes some revenues for NRCs in its analysis, but the charges appear to be grossly understated and are amortized over 3 years (which is a relatively long customer life and an inappropriate method by which to assess BOC revenues from NRCs). For comparability purposes, the NRC revenues are excluded from the summary figures in Table 2.

³⁶ There are also NRCs for “change orders,” such as when a customer wants a new phone number or some other change occurs to their account. We do not include revenues from such activities, thus making our NRC revenues understated.

³⁷ Testimony of George S. Ford on Behalf of Z-Tel Communications, IN Cause 40611-S1 (November 11, 2001).

³⁸ UNE Fact Report 2002, published by the United States Telephone Association, Table 3.

relative shares from the Form 477 data.³⁹ FCC data on UNE-P lines (Form 477) indicate that UNE-P lines increase, on average, by about 3.6% per month (from June to December 2001).⁴⁰ Public information suggests a monthly churn rate for UNE-P customers of about 6.67%, which can be added to the customer base growth rate of 3.6% for a total migration/new-install rate of about 10.25%.⁴¹

Table 1. Average Non-Recurring Charge Revenue for UNE-P
(Excluding Change Order NRCs)

BOC	Share	UNE-P Lines ^a	Avg. NRC ^b	Per- Line
Verizon	39%	2.19M	13.12	1.34
BellSouth	11%	0.62M	12.27	1.26
SBC	42%	2.39M	25.67	2.63
Qwest	8%	0.46M	20.37	2.09
BOC-Wide	100%	5.66M	18.73	1.92

^a FCC Form 477 Data (December 2001).

^b Z-Tel Communications.

Access line weighted NRCs by BOC (one-third new install, two-thirds migration) are presented in Table 1. To compute the per-line NRC, the average BOC NRC is multiplied by the 10.25% growth/churn rate. As shown in Table 1, the average monthly revenue per UNE-P line from NRCs is \$1.92 and ranges from \$1.26 in the BellSouth Region to \$2.63 in the SBC region.

D. Wholesale Prices for UNE-P

Keeping in mind the difficulties of accurately calculating UNE-P revenues, the estimates of CCM, ML, UBS and Z-Tel are summarized in Table 2. Estimates are provided at the BOC level only, to protect (to some degree) the confidentiality of the Z-Tel data. Table 2 illustrates the sizeable understatement of UNE-P revenues by the financial analysts. Z-Tel pays the BOCs about 43% more than the UBS estimates, 30% more than the ML estimates, and 11% more

³⁹ Form 477 data is that data collected by the FCC from CLECs and BOCs regarding the number of access lines served and/or sold. The Form 477 data does not include data for all States due to confidentiality concerns, so we rely on the total number of UNE-P lines from the UNE Fact Report 2002, using the State specific information from the 477 data to allocate across BOCs. For details, see http://ftp.fcc.gov/broadband/broadband_data_faq.html.

⁴⁰ Computed as the percentage increase in UNE-P access lines across states between June and December 2001 (divided by six to produce a monthly growth rate).

⁴¹ The estimated churn rate of about 6.7% is based on MCI Ex Parte, CC Docket No. 01-338 (Nov. 15, 2002).

than the CCM estimates (without NRCs). These differences may emerge from differences in the distribution of loop rates across density zones, different usage patterns, different assumptions regarding the number of features purchased, the exclusion of costs related to some elements, and many other reasons.⁴² CLECs have indicated that usage is one primary driver of the differences between actual costs and the costs estimated by the analysts.⁴³

Also observe (in Table 2) that, on average, the inclusion of the NRC revenue increases BOC revenues from UNE-P by about 9%. Overall, actual CLEC experience suggests that the revenues received by BOCs are considerably higher than the financial analysts' estimates indicate. This general understatement of revenues by financial analysts is important, since when evaluating EBITDA margins (or any margin for that matter) small changes in revenues or costs are reflected directly in the margin.

⁴² The loop rate is the charge for the copper wire that runs from the consumer's household or business to the BOCs central office. It is a flat, monthly recurring price and has no usage sensitive price component. Differences in loop rates explain about \$0.36 of the difference between Z-Tel and CCM, on average. UBS assumes 80% of access lines are in the Urban (Zone 1) density zone. Recent SBC data suggests that only 25% of UNE-P lines are in the Urban zone. *See SBC Ex Parte*, CC Docket No. 01-338 (October 30, 2002).

⁴³ *See, e.g., Z-Tel Letter and Sorgi Letter, supra* n. 15.

Table 2. BOC Specific UNE-P Revenues Per Line
(Dollars per line/month)

	UBS	ML	CCM	Z-TEL
<i>Without NRC Revenue</i>				
Verizon	15.08	17.29	20.20	23.08
BellSouth	18.79	19.97	24.38	31.54
SBC	13.98	15.02	17.31	17.94
Qwest	18.53	21.05	23.98	22.54
BOC-Wide	15.75	17.37	20.30	22.51
<i>With NRC Revenue</i>				
Verizon	16.43	18.63	21.54	24.43
BellSouth	20.05	21.23	25.64	32.80
SBC	16.61	17.65	19.94	20.57
Qwest	20.61	23.14	26.07	24.63
BOC-Wide	17.67	19.29	22.22	24.43

Weighted averages based on switched access lines from ARMIS data (2001), and therefore may be slightly different from those reported in the respective analysts reports.

There are two methods by which the quality of the analysts' estimates can be evaluated, and these two methods are best applied jointly. First, we can evaluate the average revenue (at the BOC-level) to determine how close the estimates are to actual experience. Table 2 provides such a comparison, and indicates the financial analysts' estimates of revenue are far below the actual experience of a UNE-P CLEC. Second, we consider the fact that the BOC average revenues are averages of state-level UNE-P revenues per line. Because a good estimate of a BOC's *average* revenue from a UNE-P line could arise from state-level revenue estimates that are entirely unrelated to what CLECs actually pay, we also examine the correlation between the state-level revenue estimates and actual experience.⁴⁴ A high positive correlation would suggest that the Wall Street analysts' estimates may accurately reflect a BOC's average UNE-P revenue per line. The correlation matrix is provided in Table 3. Although the correlation coefficients between the analysts' estimates and Z-Tel's actual experience are positive, the correlations are not very large (*i.e.*, not close to 1.00 which indicates perfect correlation). Thus, the analysts' estimates are "poor" reflections of actual revenues from UNE-P under both evaluation methods.

Considering both the level and correlation of the analysts' estimates to actual experience, the "best" analyst estimate of UNE-P revenues is provided by CCM,

⁴⁴ For example, the number pairs (10, 20) and (25, 5) both average to \$15, but the average is based on very different underlying values.

which underestimates Z-Tel's actual experience by about 11% and has a correlation coefficient of 0.68 (excluding NRCs). Most of this difference is observed in the BellSouth region. Even though 10% may seem to be a relatively small difference, the additional \$2.21 in revenue it represents is important when computing EBITDA margins.⁴⁵ Further, on a state-specific basis, there may be very large differences that are masked in the average (but revealed to some degree by the correlation coefficient). For example, in one state, CCM underestimates Z-Tel's wholesale prices by 56%.⁴⁶ In 7 out of 46 states (15%), CCM understates BOC wholesale prices by 25% or more.⁴⁷ In some cases, CCM overstates the BOCs' wholesale prices (but none by as much as 25%). Overall, CCM understates BOC revenues for 65% of states with an average understatement of 16%, whereas CCM overstates revenues for 35% of states with an average overstatement of 8%.

Table 3. UNE-P Revenues Correlation Matrix

	CCM	ML	UBS	ZTEL
CCM	1.00	0.87	0.66	0.68
ML	0.87	1.00	0.77	0.64
UBS	0.66	0.77	1.00	0.57
ZTEL	0.68	0.64	0.57	1.00

Regardless of the source of the revenue estimates, SBC clearly has the lowest per-line revenue from UNE-P of the four BOCs (see Table 2), driven primarily by the low UNE-P rates in the former Ameritech region. BellSouth has the highest UNE-P revenues per line according to CCM and Z-Tel, and Z-Tel data indicate that BellSouth's rates embody high charges for switch features and the daily usage file, charges that do not appear to be properly accounted for by UBS, ML, and CCM. For example, in Alabama, the switch features (as a bundle) have a wholesale price of \$5.55 and the switch port is \$2.07 (for a port/features total of \$7.62, not including usage).⁴⁸ Yet, the CCM data lists switching costs in Alabama

⁴⁵ The EBITDA margin equals revenue minus all expenses except for interest, taxes, and depreciation/amortization. Thus, increases in revenue, holding expenses constant, increase EBITDA.

⁴⁶ Computed as the percentage difference between the average cost per line as reported by Z-Tel Communications and CCM.

⁴⁷ Based on a state-by-state comparison of the average UNE-P costs reported by Z-Tel Communications and CCM.

⁴⁸ See Agreement between BellSouth Telecommunications Inc. and Z-Tel Telecommunications Inc. (dated June 2000), pp. 168 and 171.

(including usage and transport) of only \$5.46, UBS lists \$4.67, and ML lists \$3.77. Clearly, the financial analysts have not estimated UNE-P revenues correctly (at least for some states). Understating revenues, even by a small amount, is a non-trivial matter when computing EBITDA margins on a BOC or state-level basis.

IV. Retail and Wholesale Costs per Access Line

Through the Automated Reporting Management Information System (“ARMIS”), the BOCs report detailed cost information to the FCC. This data is highly disaggregated, unlike the financial forms submitted to the Securities and Exchange Commission. Using this data, we compute the average retail and wholesale cost per line for each BOC. The ARMIS does not, however, directly allocate costs between retail and wholesale functions. To compute wholesale costs, we exclude, as best we can, costs associated with the provision of retail services by the BOC. Once the wholesale costs are computed, we can then compare these wholesale costs to revenues received from CLECs using UNE-P.

A. Wholesale Operating Expenses

BOC expenses related primarily to the provision of switched access line services are summarized in ARMIS Form 43-01 (Year 2001).⁴⁹ The major categories of operating costs from Form 43-01 are summarized in Table 4. We include only costs that are allocated in ARMIS 43-01 to “Common Line” (i.e., loops), “Traffic Sensitive Switching,” and “Traffic Sensitive Transport.”⁵⁰ These expenses are summarized for the Interstate portion alone in ARMIS, so we convert these 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.⁵¹ The operating costs listed in Table 4 are further disaggregated in other ARMIS forms, including ARMIS Forms 43-03 and 43-04. Our analysis is limited to the summary categories only,

⁴⁹ Other forms provide similar information, often at a higher or lower level of aggregation.

⁵⁰ Basic telephone service, such as UNE-P, includes loops, switching, and transport network elements.

⁵¹ 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.

with the exception of “Plant Non-Specific” expenses, which contains some cost elements that should be allocated between wholesale and retail segments.

Table 4. Expense Categories ARMIS Form 43-01

Row_#	Row_Title
1120	Plant Specific
1130	Plant Non-Specific
1140	Customer Operations Marketing
1150	Customer Operations Services
1160	Corporate Operations
1170	Access
1180	Depreciation/ Amortization
1185	FCC Expense Adjustment
1190	Total Operating Expenses

While Form 43-01 provides expense data at the state level, it appears (to us) 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.⁵² Also, expenses of nearly all types appear to be over-allocated to New York, Georgia, Texas, and Colorado – states where the BOCs’ corporate headquarters are located.⁵³ ARMIS includes a substantial degree of allocation across states, and we wish to avoid to the greatest extent possible any arbitrariness that may accompany such allocations. Thus, we compute expenses and profit margins at the BOC level.

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.⁵⁴ “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

⁵² For example, Corporate Operations Expenses (Row 1160) in Missouri are negative.

⁵³ Headquarter states are New York (Verizon), Georgia (BellSouth), Texas (SBC) and Colorado (Qwest).

⁵⁴ These expenses are detailed in ARMIS Form 43-03, Rows 6121, 6122, 6123, and 6124. Terminal equipment is not related to the provision of UNE-P services.

Operations” and “Depreciation”).⁵⁵ “Access” expenses are a retail expense.⁵⁶ Depreciation is a capital expense and is discussed in the next section.

While the (hypothetical) wholesale segment of the BOC does not have retail customers, it will have wholesale 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 function). ARMIS Form 43-01 provides this expense data.⁵⁷

B. Wholesale Capital Costs

Positive EBITDA margins do not guarantee accounting profitability, as costs associated with capital investment (*i.e.*, depreciation and a return to capital) are left out of the calculations.⁵⁸ Profitability can be assessed, however, by including levelized capital expenses per access line in the analysis.

ARMIS Form 43-01 provides average net plant data (year 2001) 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.⁵⁹ Net plant is 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

⁵⁵ The average allocation factor is 72%, so much of Corporate Operations is assigned to the wholesale segment.

⁵⁶ Access expenses are reported as zero in ARMIS Form 43-01 for “Common Line” and “Traffic Sensitive” cost categories

⁵⁷ We include total expenses in the “Billing and Collection” category from ARMIS Form 43-01.

⁵⁸ The return to capital is never included as an expense category in financial reporting, and depreciation and amortization are left out of EBITDA because neither is a cash expense.

⁵⁹ 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 *for all BOCs* downward to 91% of the computed value from ARMIS to produce an estimate for analog dialtone lines.

factor to investment produces a monthly payment that includes the depreciation and return on the investment, including the tax effects.⁶⁰

C. Summary of Cost Estimates

Table 5 summarizes the BOC-specific and BOC-wide average retail and wholesale operating and total expenses.⁶¹ Retail expenses per line are estimated to be \$20.90 per line, which is comparable to ML's estimate of \$19.95 and UBS's estimate of \$19.10.⁶² Wholesale operating expenses per line range between \$9.49 to \$10.91 across BOCs, and average \$10.15. In every case, wholesale operating costs are considerably less than the estimates of either ML (\$17.46) or UBS (\$17.02).⁶³ Table 5 suggests that wholesale costs equal about 50% of retail costs,

⁶⁰ 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 (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 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. The capital charge factor is computed for each BOC, and is based on an average cost of capital of 6.39%.

⁶¹ 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.

⁶² The similarities are not surprising, given that ML uses BOC aggregate data from the FCC's *Statistics of Communications Common Carriers*, which is based on the ARMIS data. For State-level estimates of costs, ML simply adjusts the BOC-wide average operational costs in direct proportion to differences in revenues across States (i.e., the retail EBITDA margin is equal in every State). UBS computes average retail costs by assuming a constant EBITDA margin (across States within a BOC region) on retail revenues, ignoring actual cost data.

⁶³ CCM also provides cost estimates, but these estimates exceed retail revenues (with costs averaging about \$45 per line). Consequently, we do not believe these estimates are credible or worthy of a detailed evaluation. CCM also includes ARMIS depreciation expenses, which are
(Footnote Continued. . .)

not the 12.5% assumed by ML or the 11% assumed by UBS.⁶⁴ Moreover, UBS's assumed avoided cost of 11% is barely sufficient to account for unquestionably avoidable expenses such as sales and marketing and customer service. Clearly, the financial analysts have substantially overstated wholesale costs.

Capital costs average \$7.32 per line/month, ranging from \$6.42 to \$9.35. Total wholesale expenses per line - including capital costs - are \$17.55 on average. Total wholesale expenses are about 38% less than total retail expenses per line/month, 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.

Table 5. BOC Retail and Wholesale Costs

	Retail Costs	Wholesale Operating Expense	Net Investment	Capital Expense	Total Retail Expense	Total Wholesale Expense
Verizon	20.69	10.80	517.82	7.15	27.84	17.95
BellSouth	21.41	10.91	726.28	9.35	30.76	20.27
SBC	21.44	9.49	529.82	6.42	27.86	15.91
Qwest	19.03	9.55	671.79	7.72	26.75	17.27
BOC-Wide	20.90	10.15	578.45	7.32	28.22	17.47

Considering the systematic understatement of UNE-P revenues and the overstatement of wholesale costs, it is no surprise that the analysts find the UNE-P wholesale business unprofitable for the BOCs. We have made clear here, however, that the analysts' findings are (at least partially) the result of poorly estimated revenues and expenses, and consequently provide little information of value either in an investment or policy context.

notoriously incorrect and substantially different from depreciation reported in financial statements. Capital Commerce Markets, *Status & Implications of UNE-Platform in Regional Bell Markets* (November 12, 2001).

⁶⁴ Note that the avoided cost discounts computed using the ARMIS data are not directly comparable to the Total Service Resale discounts; those discounts are applied to revenues, not costs. Additionally, the ILECs continue to incur costs for resellers that are avoided for UNE-P (e.g., Access Expenses).

Table 6. Marginal Effects of Assumptions on Wholesale Costs
(Dollar change for a one percentage-point change in assumption)

	Corporate Operations	Cost of Capital	Avoided Non-Plant Specific
Verizon	0.036	0.38	.020
BellSouth	0.026	0.54	.017
SBC	0.015	0.39	.029
Qwest	0.027	0.50	.022
BOC-Wide	0.025	0.43	.023

Many alternative assumption sets could be used to compute estimates of wholesale costs. In our computations, we attempted to limit the number of assumptions as much as possible. To assess the effect of alternative assumptions, the “marginal effects” of each input are summarized in Table 6. For example, the last cell in column two of Table 6 indicates that for every one percentage-point change in “Corporate Operations” expenses allocated to wholesale lines, the monthly per-line wholesale operating costs increases by \$0.025 at the BOC-wide level.⁶⁵ The last cell of column 5 indicates that a one percentage-point increase in the allocation of furniture, artwork, general computers and so forth to wholesale service increases wholesale costs by about \$0.023 (at the BOC-wide level).⁶⁶ The other cells in the table are interpreted in the same manner.

V. Revenues, Expenses, and the EBITDA Margin

To evaluate the *accounting* profitability (not *economic* profitability) of the wholesale UNE-P relative to its the retail equivalent, the gross (EBITDA) and net profit margins for UNE-P wholesale services sold by the BOCs are computed.⁶⁷ These margins equal the difference between UNE-P revenues from Table 2 and the wholesale costs from Table 5. A minimum requirement for accounting profitability, on average, is that the revenues from a service cover the operating expenses incurred in providing it, excluding any costs associated with capital investment. A positive gross margin indicates that this minimal standard of accounting profitability is met. The net margin is an indicator of actual profitability. The margins, presented for each BOC, are summarized in Table 7.

⁶⁵ The average allocation is 72% of Corporation Operations to wholesale services.

⁶⁶ The average allocation is 50% of such expenses to wholesale services.

⁶⁷ Generally, accounting costs do not equal economic costs, particularly for capital expense components of financial data. See J. Edward, J. A. Kay, and C. Mayer, *THE ECONOMIC ANALYSIS OF ACCOUNTING PROFITABILITY* (1987).

Table 7. EBITDA Margins for BOC Wholesale Services (UNE-P)

	UNE-P Revenues	Wholesale Costs	Gross (EBITDA) Margin	Total Wholesale Expense	Net Margin	Implied Return (Pre Tax)
Verizon	24.43	10.80	13.63	17.95	6.48	21%
BellSouth	32.80	10.91	21.89	20.27	12.53	26%
SBC	20.57	9.49	11.08	15.91	4.66	17%
Qwest	24.63	9.55	15.08	17.27	7.36	19%
BOC-Wide	24.43	10.15	14.28	17.47	6.96	20%

On average, the average gross margin for the BOCs is \$14.28, or 58% of wholesale revenues.⁶⁸ The margins vary substantially, with the largest margins found in the BellSouth region (\$21.89) and the smallest in the SBC region (\$11.08). Considering its relative low gross margins on wholesale services, SBC's leadership role in attacking UNE-P and TELRIC is unsurprising.

Including capital expenses in the computation of wholesale margins, which results in an estimate of excess return, 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 7. These implied returns are computed by increases in the assumed cost of capital until net income is zero. On average, the return to capital for wholesale access lines is 20%. Thus, from the perspective of a wholesale provider of telecommunications plant, UNE-P is *profitable*.

VI. Validation

Our analysis of wholesale costs indicates that, on average, the wholesale cost for a switched access line (*i.e.*, the type of line relevant to UNE-P) is \$10 and depreciation/amortization expenses are about \$7 on a per-line basis. These estimates suggest that current/embedded total wholesale expenses per line are about \$17.

Ideally, there would be some way to validate our estimates with real-world experience. Recent statements by SBC's Chief Financial Officer, Randall Stephenson, provide such validation. Specifically, at the Bank of America

⁶⁸ These margins are generally consistent with those reported in PHOENIX CENTER PAPER NO. 16, *supra* n. 11, which reports an average EBITDA margin of 40%. The differences in the margins are attributed mostly to the use of the CCM revenue data in the earlier paper and to differences in the computation of wholesale costs per line.

Securities 32nd Annual Investment Conference (September 2002), Mr. Stephenson stated:

... 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.⁶⁹

Our estimates suggest that with \$20 to \$21 in UNE-P revenues per line, the BOC is fully compensated for its wholesale operating costs and depreciation/amortization expenses. So, our estimates are consistent with the statement that "at \$20 to \$21" the BOC can "earn money" and is not "disincented to invest." In fact, SBC earns about a 19% return for UNE-P revenue of about \$20.50 (see Table 7). On average, a BOC would earn a return of 15% at UNE-P revenues of \$20.50 per line/month.

Mr. Stephenson also indicated that a UNE-P price of \$14 is "below cost."⁷⁰ Thus, it is reasonable to conclude that SBC views its wholesale costs per UNE-P line as somewhere between \$14 and \$20. Our estimated average wholesale cost of about \$15.97 for SBC and \$17.42 for all BOCs is again consistent with the claims of one BOC's Chief Financial Officer.

We re-iterate, however, that according to FCC policy wholesale prices should not be set such that the BOCs "earn money" at the current level of expenses. Wholesale prices are based on TELRIC, and TELRIC may be above or below current expenses.⁷¹ The positive gross and net margins summarized in this paper suggest that TELRIC, as interpreted and implemented by State regulatory commissions, is typically above embedded costs.

⁶⁹ Speech by SBC Chief Financial Officer Randall Stephenson at the Bank of America Securities 32nd Annual Investment Conference, September 2002 transcription available at www.telepolicy.com).

⁷⁰ *Id.* ("well below cost on anybody's cost modeling assumptions" and "you cannot get to a \$14 UNE price").

⁷¹ TELRIC principles, in practice, provide very little constraint on the determination of wholesale prices. Generally, the concept of "forward-looking costs" is far more important to the determination of wholesale prices in State proceedings. TELRIC is merely one type of forward-looking cost analysis.

An alternate validation is provided in a recent decision by the Massachusetts Department of Telecommunications and Energy.⁷² Under the Department's assumptions, the difference in retail and wholesale costs for a Total Service Resale ("TSR") line is 25.51%.⁷³ For a TSR line, however, the BOC incurs costs that are not born for a UNE-P line. For example, access charges are paid by the CLEC for a UNE-P line, whereas those charges are paid by the ILEC for a TSR line. Also, operator services may be provided by a third-party vendor for UNE-P lines, so these costs may be avoided for UNE-P even though incurred for a TSR. If access charges and operator service expenses are (properly) considered avoided for a UNE-P customer, then the avoided retail costs in Massachusetts are 46.5% of retail expenses.⁷⁴ Including operator services lowers the difference to 41.3%. From Table 5, the wholesale costs computed using the methodology described in this paper renders a difference between wholesale and retail expenses for Verizon of 47.3%. Obviously, these wholesale-retail cost differences are very similar, and provide further validation of the reasonableness of our calculations and estimates.

VII. Conclusion

Recent reports on the financial consequences of UNE-P sales for Bell Operating Companies have drawn additional attention to long-standing complaints by the BOCs that such sales are confiscatory, and amount to "subsidized competition." Of course, no one expects incumbent firms to support any sort of unbundling at prices that a competitor would be willing to pay. Nevertheless, there is an important distinction between mandated unbundled element sales that are unwelcome, and mandated sales that actually threaten the viability of the incumbent providers. The BOCs' complaints establish that unbundled element sales are unwelcome, but not that they are, in any relevant sense, "below cost."

A number of recent financial studies find that mandated UNE-P sales produce losses for the incumbents, and that these losses, despite long-standing claims about the excessive profitability of long distance markets, are not offset through in-region, long distance operations permitted under the Section 271

⁷² Order on Verizon Massachusetts' Compliance Filing, DTE 01-20-Part A-B (May 29, 2003), Appendix A.

⁷³ The Department ordered a TSR discount of 25.51%, whereas Verizon proposed a TSR discount of 22%. *Id.*

⁷⁴ Because revenues from operator services are excluded,

process. The financial analyses by Merrill-Lynch, UBS, and others described in this paper, however, are designed specifically to provide investment advice and, as such, are not useful for evaluating the social impacts of required element sales. Indeed, from the investor's point-of-view, a firm that gained a monopoly might represent an excellent opportunity, although it is incorrect to argue from these premises that society should welcome such a development. On the other hand, financial analyses do serve a useful purpose, and the survival of the Bell companies is presumably a matter of concern for regulators and the public, as well as Wall Street.

This paper subjects the conclusions of these financial studies to careful scrutiny, and finds that they are largely without merit. Errors in both the calculation of unbundled element revenues, and in the wholesale costs of providing unbundled elements, are identified. Using actual payments by a representative CLEC, we find that revenues ordinarily reported in financial analyses are substantially understated. These understatements arise from several sources, including omission of certain nonrecurring charges, incorrect assumptions on the mix of loops purchased by competitors, and so on.

On the cost side, the publicly available ARMIS data can be used to construct measures of current costs for wholesale element sales in a manner conceptually consistent with Bell protestations on these matters. While such costs are not economic costs, neither are they hypothetical, but instead they represent costs incurred by the incumbents and, therefore, are relevant for financial analyses of the type under discussion. We carefully obtain realistic cost figures usable for financial analyses. We do not use TELRIC costs, nor do we seek to identify the costs of efficient forward-looking network operations.

Our analysis suggests that positive gross and net margins are the rule when costs and revenues are aggregated to the level of the BOC. Even the inclusion of depreciation and a return to capital does not materially alter this conclusion - UNE-P is *profitable* to the BOCs.

Concerns over the profitability of unbundled element sales reflect a widespread recognition that such sales are less profitable than an indefinite retention of monopoly power. While the BOCs would surely be better off if they were not required to accommodate competition (for a variety of reasons), the emergence of effective competition in local markets is the primary policy goal of

the Telecommunications Act of 1996.⁷⁵ Regulatory actions that derail the unbundling process are tantamount to abandonment of the goals of the Act. In fact, declining margins are a hallmark of competition and a signal that the Act's implementation is promoting the desired effects.

Updated June 23, 2003.

We appreciate helpful comments from others who have replicated our results. The following corrections to the model were made: 1) An incorrect adjustment to BellSouth's operating expenses was eliminated, raising BellSouth's operating expenses by \$0.69 per line. 2) Understatement of retail avoided expenses due to formula error, the repair of which lowered operating expenses by about \$0.08 on average (including BellSouth). All reported numbers have been adjusted to reflect these changes.

⁷⁵ See Preamble to the Conference Report to Accompany S. 652, H. Rpt. 104-458, 104th Cong., 2d Sess. (1996) ("provide for a pro-competitive, de-regulatory national policy framework").