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Entry Policy in Local Telecommunications
Iowa Utilities and *Verizon*

Douglas Lichtman and Randal C. Picker[*]

The Telecommunications Act of 1996 requires, among other things, that incumbent local telephone carriers lease parts of their telephone networks to would-be rivals.[1] If you have children, you can easily imagine the difficulties inherent in this approach; mandated sharing is often contentious when forced upon young kids and is no easier as applied to firms with strong, contradictory interests. These problems are exacerbated in the telecommunications setting by imprecision in the rules of the game. As Justice Scalia put it *AT&T Corp. v. Iowa Utilities Board*,[2] "[i]t would be gross understatement to say that the Telecommunications Act of 1996 is not a model of clarity. It is in many important respects a model of ambiguity or indeed even self-contradiction."[3]

However complicated the legal provisions, the intuition behind them is straightforward: the purpose of mandatory sharing is to facilitate competition. Without mandatory sharing, a competitor can enter the market only if it can either cut a deal with an existing telephone company or build its own network from the ground up. With mandatory sharing, by contrast, a competitor has a third option: it can enter the

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[1] See Telecommunications Act of 1996, Pub L No 104-104, 110 Stat 56 (1996), §§ 251-52, as codified at 47 USC §§ 251–52 (2002).

[2] 525 US 366 (1999).

[3] Id at 397.

market in stages, building part of its network itself but then leasing the rest at regulated rates from existing firms. The competitor can later choose to build out its network more fully, for example if its original offering has helped it to establish market share, to develop some relevant expertise, or to accumulate necessary financial resources. Alternatively, the competitor can continue to compete along only the narrower dimension, borrowing most network elements from the incumbent and in that way focusing its competitive energies on some small subset of the relevant infrastructure.

The mandatory sharing provisions of the 1996 Act have generated a flood of litigation in the past six years, in part because these provisions represent a sweeping change in the regulatory landscape. Prior to 1996, local telephone regulation had proceeded under the assumption that each community should be served by one and only one local telephone carrier. That carrier was subject to regulation so as to ensure that its prices remained low and the quality of its service remained high. But competition was not encouraged. It was expensive enough to have one firm build a local telephone network connecting every home and business in the community; policymakers deemed it ridiculous to encourage a second or third firm to duplicate that infrastructure.

The 1996 Act turned this conventional wisdom on its head. Gone was the assumption that regulated monopoly is the best approach to local telephone service. Replacing it was a firm commitment to competition. That commitment reveals itself throughout the 1996 Act, for example in a provision requiring that existing telephone carriers exchange traffic with new entrants,[4] and in a provision forbidding state authorities from adopting regulations that favor one local telephone company at the expense of another.[5] But the central and most controversial procompetitive provisions of the 1996 Act are those that create the above-described regime of mandatory shared infrastructure. Insiders term these the "unbundled network element" (UNE) provisions; and twice already these provisions have been subject to Supreme Court review.

In the first case, the aforementioned *Iowa Utilities*, the Court considered whether the Federal Communications Commission (FCC) had

[4] 47 USC § 251(c)(2).

[5] 47 USC § 253 (2002).

been faithful to the 1996 Act when it promulgated a regulation identifying the specific network elements that an incumbent telephone company has to share with rival firms.[6] The incumbent firms argued that the Commission had applied too lax a standard. According to them, the right standard would have required sharing only if a given element was an "essential facility" as that phrase is used in antitrust law.[7] The Court rejected this argument on grounds that a telecom-specific standard might better accomplish the 1996 Act's goals. But the Court did find that "the Act requires the FCC to apply *some* limiting standard"—something the Commission, in the eyes of the Court, had "simply failed to do."[8]

The Court's specific criticisms centered on the Commission's interpretation of section 251(d)(2), a provision that instructs the Commission to "consider, at a minimum, whether (A) access to such network elements as are proprietary in nature is necessary; and (B) the failure to provide access to such network elements would impair the ability of the telecommunications carrier seeking access to provide the services that it seeks to offer."[9] According to the Court, the Commission eviscerated the first of these criteria by interpreting it "as having been met regardless of whether 'requesting carriers can obtain the requested proprietary element from a source other than the incumbent'"[10] and similarly eviscerated the second by deeming competition impaired if "the failure of an incumbent to provide access to [some specific] network element would decrease the quality, or increase the financial or administrative cost of the service a requesting carrier seeks to offer, compared with providing

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[6] *Iowa Utilities* addressed other issues as well, including jurisdictional questions about whether the Act empowers the federal government, through the Federal Communications Commission, or state government, through local public utilities commissions, to take the lead in coordinating various aspects of mandatory sharing. We do not focus on the jurisdictional issues in this Article, but interested readers are invited to consult Stuart Benjamin, Douglas Lichtman and Howard Shelanski, *Telecommunications Law and Policy* 731-35 (Carolina, 2001) ("Telecommunications Law & Policy").

[7] 525 US at 388.

[8] Id.

[9] 47 USC § 251(d)(2).

[10] 525 US at 389, quoting FCC, *In re Implementation of the Local Competition Provisions in the Telecommunications Act of 1996*, 11 FCC Rcd 15499 (1996) ("First Report & Order") at ¶ 283.

that service over other unbundled elements."[11] The Court therefore vacated the Commission's rule as unreasonable under even the generous standards of *Chevron* deference.[12]

The second case, last Term's *Verizon Communications v. Federal Communications Commission*,[13] raised two primary objections to the procedure that the Commission had established for determining the price at which various network elements will be made available for mandatory sharing. The first objection was that the Commission's procedure did not sufficiently track the relevant statutory language. The 1996 Act does not say much about prices, but it does say that a "just and reasonable rate" should be "based on the cost" of the shared facility, should be "nondiscriminatory," and "may include a reasonable profit."[14] The incumbent local telephone carriers argued that the Commission's rule did not satisfy these commands, the objection being that the Commission's approach—a forward-looking cost methodology known as "total element long-run incremental cost" or TELRIC—was not "based on cost" because, among other things, it defined cost to mean the expense that would be incurred were an equivalent network built today instead of adopting the arguably more conventional definition that cost means actual monies spent.[15] The Court ultimately found that the Commission's interpretation was reasonable on this score, or, less enthusiastically, that it was "reasonably within the pale of statutory possibility."[16]

The incumbents' second objection was that the Commission's pricing methodology, if deemed permissible under the statute, would result in regulated prices so low as to constitute a taking of the incumbents' property without just compensation, a violation of the Fifth and Fourteenth Amendments. This, the incumbents argued, justified application

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[11] 525 US at 389 (italics omitted), quoting First Report & Order at ¶ 285 (cited in note 10).

[12] *Chevron USA, Inc v Natural Resources Defense Council, Inc*, 467 US 837 (1984). The Commission rewrote its rules after the remand, with no more success. See *United States Telecom Ass'n v FCC*, 290 F3d 415 (DC Cir 2002).

[13] 122 S Ct 1646 (2002).

[14] 47 USC § 252(d).

[15] 47 CFR § 51.505 (1997).

[16] 122 S Ct at 1687.

of the rule of constitutional avoidance; in essence, the Court should interpret the 1996 Act to preclude the Commission's pricing methodology in order to avoid a serious constitutional question. The Court was not convinced that a serious constitutional question was in the offing, however, mainly because the Commission's pricing methodology is so flexible that, even knowing what it is, it is still almost impossible to guess whether the resulting prices will be high or low, let alone so unconstitutionally low as to set up a possible takings argument.[17] The Court noted that this conclusion was consistent with its "general rule" of not considering "a taking challenge on ratesetting methodology without being presented with specific rate orders alleged to be confiscatory."[18]

This account covers a great deal of law and policy, and obviously we will unpack it with care below. But before we delve too deeply into that analysis, we should make clear that we think the Commission in promulgating the regulations at issue in these two cases, and the Court in analyzing those regulations in light of both the 1996 Act and the Constitution, performed admirably. The 1996 Act gave the Commission only six months to promulgate all of the regulations needed to implement network element unbundling.[19] Viewed in that light, the rules that the Commission produced[20] and the document that attempts to explain and justify them[21] represent a substantial accomplishment. Similarly, while we think that the Court made some missteps in *Iowa Utilities* and *Verizon*, overall the Court's analysis in both of these cases strikes us reasonable and likely even right. The economic issues at the core of these cases were complicated and at times ambiguous; and the Court in our view exercised good judgment in deciding when to wade into the morass and when to defer technical issues to the Commission.

Our purpose in this Article, then, is not to criticize either the Commission or the Court. Instead, we set out here to move the analysis

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[17] Id at 1679.

[18] Id.

[19] 47 USC § 251(d)(1).

[20] See, in particular, 47 CFR § 51.317 (1997) (standards for identifying network elements to be made available); 47 CFR § 51.319 (1997) (specific unbundling requirements); 47 CFR §§ 51.501-51.515 (2002) (establishing pricing rules for unbundled network elements).

[21] First Report & Order (cited in note 10).

forward by highlighting some possible mistakes, raising some overlooked issues, and along the way clarifying exactly what is at stake in these battles over the form and substance of the 1996 Act's unbundling regime. Our hope is that the ideas presented here will amount to more than just a post-mortem on two interesting and important Supreme Court cases. Indeed, we hope that our discussion helps to inform the on-going legal and regulatory process put in motion by these cases and still underway at the Commission and in, among others, the Second, Seventh, Eighth, and D.C. Circuits.[22]

We proceed as follows. In Section I, we explain the key sharing rules established by the 1996 Act and parse in some detail the Court's analysis of those rules in *Iowa Utilities* and *Verizon*. In Section II, we consider more conceptually the main reasons why sharing rules are sometimes imposed in markets like the market for local telephone service, focusing in particular on the problem of natural monopoly and its implications for both market entry and government regulation. In Section III, we point out the three main differences between the sharing rules promulgated under the 1996 Act and the rules that were in place prior to 1996. In Section IV, we present some data on how all this regulation has begun to unfold in practice. Finally, in Section V, we use the preceding analysis to look forward from *Iowa Utilities* and *Verizon*, offering our thoughts on how these cases will influence the regulatory and legal landscape in the coming years.

I. *Iowa Utilities* and *Verizon*

The Telecommunications Act of 1996 is wide-ranging, but among its most important provisions are those designed, in the FCC's words, "to let anyone enter any communications business—to let any communications business compete in any market against any other."[23] This might

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[22] See, for example, *Iowa Utilities Board v FCC*, 219 F.3d 744, 757 (8th Cir 2000) (continued proceedings in light of *Iowa Utilities*); *United States Telecom Ass'n. v FCC*, 290 F3d 415 (DC Cir 2002) (judicial review of the Commission's revised list of elements to be unbundled); *Goldwasser v Ameritech Corp.*, 222 F3d 390 (7th Cir 2000) (analysis of relationship between the unbundling requirements and federal antitrust law); *Law Offices of Curtis V. Trinko v Bell Atlantic Corp.*, 305 F3d 89 (2nd Cir 2002) (same).

[23] See FCC, *Telecommunications Act of 1996*, available online at

sound like an obvious objective; but in the early days of telecommunications regulation, competition was in fact restricted in telecommunications markets for fear that it would mean wasteful duplication of telecommunications resources and, worse, the possibility of competing but incompatible telephone networks.[24]

Granted, that view had lost some ground even before the 1996 Act. In the 1950's, for example, the Commission embraced competition by authorizing the use of telephone handsets purchased in the marketplace, rejecting the earlier view that telephone handsets were part of the telephone network and thus had to be rented from the telephone company itself.[25] Similarly, in the 1980's, the Commission joined forces with the Department of Justice and used a combination of regulation and antitrust litigation to open the long distance market to competition, this time by requiring local telephone companies to work with all the various long distance firms instead of each just picking a favored partner.[26]

But the market for local telephone service had been left untouched by these and related changes. Simply put, it was expensive to build a fully functional local telephone network, and having a single network sufficed in terms of being able to provide adequate service to every interested home and business. Given that, policymakers saw little reason to encourage the construction of a second or third overlapping infrastructure. The 1996 Act thus represented a significant shift in telecommunications policy. The new goal was to encourage competition even in the local market, at least to whatever extent the economics of the industry would allow.

<http://www.fcc.gov/telecom.html> (visited November 1, 2002).

[24] See Telecommunications Law & Policy at 614-21 (cited in note 6). It is possible that incompatible local telephone networks would benefit society by spurring innovation and encouraging quality service. See Milton L. Mueller, Jr., *Universal Service: Competition, Interconnection, and Monopoly in the Making of the American Telephone System* (MIT & AEI, 1997).

[25] See *Hush-A-Phone v United States*, 238 F2d 266 (DC Cir 1956); *Use of the Carterfone Device in Message Toll Service*, 14 FCC 2d 571 (1968); *Use of Recording Devices in Connection with Telephone Services*, 11 FCC 1033 (1947). For discussion, see Telecommunications Law & Policy at 624-28 (cited in note 6).

[26] See *United States v American Telephone & Telegraph*, 552 F Supp 131 (DC Cir 1982), aff'd, 460 US 1001 (1983); *In re MTS and WATS Market Structure Phase III*, 100 FCC 2d 860 (1985). For discussion, see Glen Robinson, *The Titanic Remembered: AT&T and the Changing World of Telecommunications*, 5 Yale J Reg 517 (1988).

Some of the 1996 Act's mechanisms for encouraging competition are easy to understand. One set of provisions, for instance, obligates all existing telecommunications carriers to exchange traffic with each other and with any new entrants.[27] This is important since a new entrant—a "competitive local exchange carrier" or CLEC in telecommunications jargon—can attract customers only if it can guarantee that its subscribers will be able to communicate with existing telephone users. Another set of provisions facilitates competition by allowing a CLEC to resell under its own name services that are in fact provided by another firm.[28] This makes it easy for a new firm to enter the market, especially since services can be purchased at cheap "wholesale rates" if purchased from an "incumbent local exchange carrier" (ILEC)—telecom-speak for a local telephone company that was already in business at the time the 1996 Act took effect.[29]

The most important mechanism, however—and the one of most interest in both *Iowa Utilities* and *Verizon*—requires incumbent local telephone carriers to share, at regulated rates and with any interested firm, certain components used in their networks. For example, suppose that the existing local telephone network in a given community uses copper wires to connect local homes to some centralized automatic switch. Under the 1996 Act, the ILEC that owns those wires must allow any interested competitor to use them. The idea is to give new entrants the opportunity to enter the market without requiring that each entrant build its own entire telecom network right from the start. Using unbundled network elements, firms can enter the market gradually, providing some network elements on their own but leasing the rest from the relevant incumbent firm.

The 1996 Act only sketches the rough contours of this unbundled network element mechanism. Indeed, as we have mentioned, one critical provision sets out the standards that the Commission should use when

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[27] See 47 USC § 251(a)(1) (general obligation of interconnection); 47 USC § 251(c)(2) (more detailed interconnection obligation for incumbents). For discussion, see Telecommunications Law & Policy at 715-18 (cited in note 6).

[28] See 47 USC § 251(b)(1) (resale obligation for all firms); 47 USC § 251(c)(4) (specific obligation for incumbents).

[29] See 47 USC § 252(d)(3) (defining wholesale rates for purposes of § 251(c)(4)).

deciding which network elements must be made available for lease, but that provision states only that the Commission should "consider, at a minimum, whether access to such network elements as are proprietary in nature is necessary" and also whether "the failure to provide access . . . would impair the ability of the telecommunications carrier seeking access to provide the services it seeks to offer."[30] Another central but vague provision is the pricing provision also mentioned earlier, which states in relevant part that the price should be "based on the cost" of the relevant network element and "may include a reasonable profit."[31]

All that left much of the hard work to the Federal Communications Commission, as it was to promulgate the rules that would implement these ambiguous and complicated provisions. And for all of the uncertainty about how to actually read the Act, Congress left no doubt as to *when* the FCC was to complete its work implementing the core sharing rules; the 1996 Act required that the Commission issue the relevant implementing regulations within six months of the statute's enactment.[32] Somewhat miraculously given the enormity of the task, the FCC met the deadline, issuing the relevant regulations on August 8, 1996.[33] The litigation that ultimately led to both Supreme Court challenges began shortly thereafter.

A. *Iowa Utilities*

One of the main issues in contention in *Iowa Utilities* was the question of whether the Commission exercised reasonable discretion when it promulgated a rule identifying seven specific network elements that every incumbent would have to unbundle.[34] Incumbent local exchange carriers argued that the Commission had applied too lenient a standard when identifying those seven elements. For example, the incumbents argued that the Commission had not adequately considered the possibility that entrants can purchase some elements through voluntary transac-

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[30] 47 USC § 251(d)(2).

[31] 47 USC § 252(d).

[32] 47 USC § 251(d)(1).

[33] See First Report and Order (cited in note 10).

[34] 47 CFR § 51.319 (1997).

tions, a consideration that might argue against mandatory unbundling with respect to those elements. The Court was largely receptive to these challenges and ultimately vacated the challenged rule; but, before we explain why, it might be helpful to first set out and analyze the relevant legal provisions, namely sections 251(c)(3) and 251(d)(2) of the 1996 Act.

Section 251(c)(3) sets forth the basic requirement that incumbent local exchange carriers "provide, to any requesting telecommunications carrier . . . access to network elements on an unbundled basis at any technically feasible point on rates, terms, and conditions that are just, reasonable, and nondiscriminatory."[35] When *Iowa Utilities* was litigated in the Eighth Circuit, there was some dispute over what the phrase "at any technically feasible point" means.[36] The Commission thought that the phrase creates a presumption that every element should be unbundled so long as unbundling is technically feasible.[37] Incumbent carriers thought that the phrase merely defines *where*—namely, at technically feasible points—unbundling should take place.[38] The Eighth Circuit ultimately sided with the incumbents[39] and the Commission did not challenge that decision in the Supreme Court,[40] and thus today the accepted reading of section 251(c)(3) is that it creates a general unbundling obligation without in any way specifying exactly what should be unbundled.[41]

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[35] 47 USC § 251(c)(3).

[36] *Iowa Utilities Board v FCC*, 120 F3d 753, 810 (8th Cir 1997).

[37] 525 US at 391.

[38] Id.

[39] 120 F3d at 810.

[40] 525 US at 391.

[41] Note that the Supreme Court could have vacated and remanded the Commission's unbundling rules on this ground alone. The argument would have been that the Commission's admitted error in interpreting section 251(c)(3) infected all of its regulations; in essence, the Commission had started the process with a presumption in favor of unbundling and then looked for reasons not to unbundle instead of starting with a blank slate and looking for reasons to unbundle. The Court did not vacate on this ground, however, perhaps out of a suspicion that the two approaches in the end lead to the same basic results. This conclusion is bolstered by a comparison of the Commission's original list of elements (47 CFR § 51.319 (1997)) with the nearly identical list put forward on remand (47 CFR § 51.319 (2002)).

Section 251(d)(2), by contrast, offers guidance as to which elements should be included in the unbundling regime. Specifically, the provision instructs the Commission to "consider, at a minimum, whether (A) access to such network elements as are proprietary in nature is necessary; and (B) the failure to provide access to such network elements would impair the ability of the telecommunications carrier seeking access to provide the services that it seeks to offer."[42] One way to think about this provision is to see it as setting up a two-level standard: for elements that involve some form of intellectual property, the Commission should ask whether unbundling is "necessary," whereas for non-proprietary elements the Commission should ask only whether a decision not to unbundle would somehow "impair" competition. Phrased another way, Congress in this provision seems to be telling the Commission to be especially reluctant to unbundle elements where patent, copyright, trademark or trade secret protection is implicated—more reluctant than the Commission would be under its normal, baseline standard.

But what is that baseline? Try three different formulations, all seemingly consistent with the vague contours of section 251(d)(2). In the first, the baseline for unbundling is that we should unbundle only in instances where it is physically or economically impractical for an entrant to provide a given element itself or to acquire that element through voluntary market transactions. This would be a relatively strict standard, in that it would roughly shadow antitrust law's essential facilities doctrine and thus would favor unbundling only in extreme situations. That might make sense; and, indeed, the incumbents pushed for this interpretation in the Supreme Court.[43] However, as we will see in a moment, there are arguments in favor of mandatory access even in cases where self-provision or voluntary transactions are plausible.

Try, then, a second formulation, namely that we should unbundle even in cases where entry would otherwise be possible, the purpose being either to make it easier for firms to enter the market or to accelerate entry into the market. The Commission was clearly sympathetic to at least this latter idea of accelerating entry. In fact, at one point in the document explaining its unbundling regulations, the Commission ex-

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[42] 47 USC § 251(d)(2).

[43] 525 US at 388.

plicitly stated that while "it is possible that there will be sufficient demand in some local telephone markets to support the construction of competing local exchange facilities" at some point, those future competitors should "be able to use unbundled elements from the incumbent [local exchange carriers] until such time as they complete construction of their own networks."[44] Note that this articulation seems to let the entrants determine when any transition takes place, although one could easily imagine an alternative articulation where unbundling was an option only for a predefined transition period.

Consider, finally, a third formulation, namely that we should unbundle in instances where new entrants would otherwise provide their own elements but those duplicative elements would represent social waste. This interpretation harkens back to the old regulatory notion that it is expensive to build certain parts of the local telephone network and it is therefore ridiculous to encourage firms to duplicate that infrastructure. Unbundling on this view is necessary not because a given entrant would not build its own facility, but rather because it would be socially wasteful to have a second facility built. On this story, mandatory access—at sufficiently cheap prices—is a means by which to avoid the needless duplication of facilities.

Again, section 251(d)(2) does not on its face dictate any particular choice among these three formulations. And, in fact, the record suggests that in some form the Commission thought about each of these articulations when crafting its unbundling rules.[45] The question in *Iowa Utilities* was therefore whether, in the end, that thought process was sufficient; or, more specifically, whether the Commission had reasonably interpreted Congress's command that it "consider" whether access to proprietary elements was necessary and whether the failure to provide

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[44] First Report & Order at ¶ 232 (cited in note 10).

[45] See, for example, id at ¶ 286 (refusing to hold that incumbents "must provide unbundled elements only when the failure to do so would prevent a carrier from offering a service," thus considering and rejecting the first articulation given in the text); id at ¶ 378 (noting that the failure to unbundle a given element "would likely delay market entry and postpone the benefits of local telephone competition for consumers," the issues raised in our second articulation); and id (noting that, in some instances, "preventing access to unbundled loops would . . . cause the competitor to construct unnecessarily duplicative facilities, thereby misallocating societal resources," our third concern).

access to non-proprietary elements would impair a given entrant's ability to offer a particular telecommunications service.

Focus first on the direct command issued to the Commission, namely that it *consider* the two factors at issue. The most natural interpretation of "consider" is just that: were the necessity and impair factors thought about in defining the unbundling standards? So long as they were—as they almost certainly were—the regulations would pass muster. Unsurprisingly, this is exactly how the Commission understood its obligation under section 251(d)(2), concluding that "the word 'consider' means we must weigh the standards enumerated in section 251(d)(2) in evaluating whether to require the unbundling of a particular element"[46] and, later, that "the plain language of section 251(d)(2), and the standards articulated there, give us the discretion to limit the general obligation imposed by subsection 251(c)(3), but they do not require us to do so."[47]

Arguably, this was a reasonable interpretation of the law. After all, Congress does from time to time order administrative agencies to include certain considerations in their deliberations. For example, the National Environmental Policy Act requires that federal agencies give environmental concerns "appropriate consideration in decisionmaking," but that Act does not itself impose any substantive standard on actual outcomes.[48] Moreover, the "shall consider" formulation is used more than a dozen times in federal communications laws,[49] and in at least some of those instances courts have interpreted the phrase to mean exactly what the Commission says it meant here.[50]

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[46] Id at ¶ 280.

[47] Id at ¶ 286.

[48] 42 USC § 4332 (2002). See *Strycker's Bay Neighborhood Council, Inc. v Karlen*, 444 US 223 (1980).

[49] See, for example, 47 USC §§ 154(a)(3), 160(b), 226(e)(2), 227(b)(2), 251(d)(2), 254(c)(1), 273(e)(1)(A), 311(b), 325(b)(3)(A), 332(a), 332(c)(1)(C), 534(g)(2), 543(c)(2), 544a(c)(1), 548(c)(4), 610(b)(3) (2002).

[50] In a dispute over cable television rates, for example, the D.C. Circuit noted that the relevant statute "by its terms merely requires the Commission to consider" several relevant factors. The court went on to say that this means only that the Commission must "reach an express and considered conclusion about the bearing of [each] factor, but is not required to give any specific weight" to those factors. *Time Warner Entertainment Co. v FCC*, 56 F3d 151, 175 (DC Cir

The Commission pressed this argument—that it need only consider necessity and impairment and that it had done so—in the Supreme Court,[51] but the Court's decision does not explicitly address it. We must admit that we are a little puzzled by that. The argument seems strong enough to warrant serious discussion, especially given the fact that, if accepted, it would leave the Commission's rule fully intact, a result directly opposite the one ultimately reached in the case. The best defense of what the Court did would be to say that the Commission's interpretations of the necessary and impair standards were so misguided that the Commission cannot fairly be said to have considered these factors. That would explain why the Court went ahead and analyzed the substance of the Commission's interpretations; and it is to that substance that we now turn.

The Court raised two fundamental concerns about the Commission's interpretations. The first was that, in the Court's view, the Commission had ignored the possibility that some elements can be obtained in the market or built by would-be entrants. As we have already explained, it might make sense to unbundle even if a given element can be built anew or acquired through voluntary transactions; for instance, the purpose of unbundling might be to discourage wasteful duplication by offering entrants cheap access to existing infrastructure. But the question of whether a given element can be acquired through voluntary transactions or built anew is certainly relevant to the section 251(d)(2) inquiry. The Court was therefore troubled by what it perceived as a Commission completely insensitive to these possibilities.

In truth, the evidence on this point was mixed. Yes, when the Commission announced its interpretation of the "necessary" standard, the Commission did say that a proprietary element is necessary unless the "requesting telecommunications carrier could offer the same proposed telecommunications service *through the use of other, nonproprietary unbundled network elements*" borrowed from the incumbent's network.[52]

1995) (interpreting 47 USC § 543(c)(2)) (internal citations and quotations omitted).

[51] See *Reply Brief for the Federal Petitioners and Brief for the Federal Cross-Respondents* at 43-44 ("Reply Brief") (available on Lexis).

[52] 47 CFR § 51.317 (1997) (emphasis added). This quotation is taken from Rule 317, a rule that was promulgated alongside the rule explicitly at issue in *Iowa Utilities*, Rule 319. Rule 317 instructed state commissions in how to interpret the necessary and impair standard in the event

That comparison captures what the Court saw as the Commission's error; it compares the incumbent's unbundled proprietary elements to the incumbent's unbundled non-proprietary elements, completely ignoring elements not borrowed from the incumbent at all. Similarly, in interpreting the statutory language about impairment, the Commission held that a requesting carrier would be impaired in its ability to provide a given service if "the failure of an incumbent to provide access to a network element would decrease the quality, or increase the financial or administrative cost of the service a requesting carrier seeks to offer, *compared with providing that service over other unbundled elements*" borrowed from the incumbent's network.[53] Again, same problem: this articulation compares unbundled elements to unbundled elements, failing to account for elements that might be acquired outside the unbundling regime.

In the Commission's defense, however, it is unfair to read too much into those quotations. The Commission obviously did think about the possibility that entrants would build elements themselves or purchase elements in voluntary transactions. A few paragraphs back, for instance, we quote the Commission as saying that "it is possible that there will be sufficient demand in some local telephone markets to support the construction of competing local exchange facilities,"[54] and surely that sentence recognizes that entrants can build their own networks. The Court was therefore wrong to say that the Commission did not account for these ideas in its analysis; the Court's actual complaint is that the Commission did not build these ideas into the rules that were ultimately promulgated.

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that they were called upon to unbundle additional elements above and beyond those unbundled on the federal level by the Commission. We quote this rule because it makes clear how the Commission was interpreting the "necessary" and "impair" standard. The *Iowa Utilities* Court, by contrast, quotes similar but more ambiguous language drawn from the document wherein the Commission explains and justifies both Rule 317 and Rule 319. See 525 US at 389, quoting First Report & Order at ¶ 283 (cited in note 10). Note that, while the Supreme Court ultimately vacated only Rule 319 and left Rule 317 intact, the Eighth Circuit on remand recognized the link between these two rules, going so far as to vacate Rule 317 on grounds that, if Rule 319 was invalid, Rule 317 also could not stand. See *Iowa Utilities Board v FCC*, 219 F3d 744, 757 (8th Cir 2000).

[53] First Report & Order at ¶ 285 (emphasis added) (cited in note 10). Cf. 47 CFR § 51.317(b)(2) (1997) (similar language used in Rule 317).

[54] See note 46.

If that is right, however, then it must be pointed out that the Commission was under no legal or logical obligation to build these ideas into its final rules. Suppose, for instance, that the Commission's honest evaluation of unbundling was that, in most instances, elements should be unbundled even if they are also available through voluntary transactions. Suppose, further, that the Commission believed that the added costs of distinguishing situations where that assumption works from situations where it does not are high—both administratively and with respect to the additional legal uncertainty imposed by a contingent rule—and thus that the public interest was better served by a rule that ignores the possibility of voluntary transactions. In such a case, the Commission would have written rules exactly like those criticized in *Iowa Utilities*, and yet the Commission would have indeed considered voluntary market transactions in formulating its rules.

Turn attention for a moment to the Court's second concern, namely that neither of the Commission's interpretations included an explicit requirement that harms and differences be substantial. In the above-quoted language about impairment, for instance, the Commission concluded that a carrier is impaired in its ability to provide a given service if "the failure of an incumbent to provide access to a network element would decrease the quality, or increase the financial or administrative cost of the service a requesting carrier seeks to offer." That language seems to imply that—no matter how small—any increase in cost or decrease in quality would be sufficient to justify unbundling. And that, the Court objected, is an interpretation not sufficiently "in accord with the ordinary and fair meaning" of the terms "necessary" and "impair."[55]

Again, there is room to defend the Commission. A materiality requirement was surely implicit in the Commission's analysis; after all, if the Commission really believed that even trivial harms were sufficient to justify an unbundling obligation, the Commission would have required the unbundling of a large number of elements. In fact, the Commission's rule had required that only seven elements be unbundled.[56] Those elements obviously satisfy the barely-there impairment standard that the Court ascribes to the Commission, but almost certainly they also satisfy

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[55] 525 US at 390.

[56] See 47 CFR § 51.319 (1997).

a much higher threshold—as the Commission itself concluded when it revisited these issues on remand.[57] Moreover, the Commission's list matches up quite well with the list Congress built into section 271, a provision that more fully specifies the unbundling requirement as it applies to former Bell Operating Companies interested in offering in-region long distance service.[58] That further suggests that the Commission in fact did apply some sort of materiality standard in its analysis, even if that standard was not explicitly written out.

All that said, however, the Court's real objection with respect to both market availability and materiality is that the Commission had not made sufficiently clear its assumptions, reservations, and interpretations. The document in which the Commission had explained its rules was muddled and at times seemingly inconsistent. That is understandable given that Congress had ordered the Commission to prepare the document and issue the accompanying rules no later than six months after the enactment of the 1996 Act.[59] But the Court nevertheless thought that the problems were serious enough so as to require that the Commission attempt once more to clarify and explain the scope of the unbundling requirement. Hence the Court vacated the rule in which the Commission named the specific elements that were to be unbundled and then remanded for further proceedings both in the Commission and in the Eighth Circuit.

Iowa Utilities does approve some other, less sweeping regulations that the Commission had put forward with regard to mandatory sharing. For instance, the Commission had announced in the so-called "all elements" rule that an entrant can purchase access to unbundled network elements even if that entrant does not itself own any telecommunications facilities.[60] Incumbents had argued for the opposite rule, namely that entrants should have to bring at least some equipment to market in order to qualify for mandatory sharing. That, of course, would have delayed entry—presumably exactly what the incumbents were seeking—

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[57] See 47 CFR § 51.319 (2002).

[58] See 47 USC § 271(c)(2)(B) (2002). For discussion, see Telecommunications Law & Policy at 755-67 (cited in note 6).

[59] 47 USC § 251(d)(1).

[60] See First Report and Order at ¶¶ 328-40 (cited in note 10).

but it would have had the possibly offsetting benefit of encouraging entrants to invest in their own facilities, what is called in the industry "facilities-based" competition. The Court upheld the Commission mainly on grounds that the statute said nothing explicit on the subject.[61]

Similarly, the Court sided with the Commission in its determination that incumbents should not be allowed to separate previously joined network elements before granting access to entrants.[62] The idea, in the Commission's words, was to stop incumbents from "disconnecting previously connected elements, over the objection of the requesting carrier, not for any productive reason, but just to impose wasteful reconnection costs on new entrants."[63] Incumbents had plausibly objected to this rule on grounds that it, especially when combined with the "all elements" rule, made it too easy for entrants to use the unbundling provisions to purchase complete telecommunications services. An entrant who wanted to purchase a complete service could do so under other provisions of the 1996 Act, but at wholesale prices, not cost.[64] The incumbents' point was that the unbundling provisions should be kept meaningfully distinct from these resale provisions, in that way ensuring that each entry mechanism offers a unique mix of price, risk, and obligation.[65]

Lastly, the Court also approved the Commission's "pick-and-choose" rule, an interpretation of section 252(i) of the Act. Section 252(i) somewhat cryptically states that an incumbent must make any network element that it provides to one party "available to any other requesting telecommunications carrier upon the same terms and conditions as those provided in the agreement."[66] The Commission took this to mean that entrants can scour agreements previously reached between

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61 525 US at 392-93.

62 For the Commission's rule, see 47 CFR § 51.315(b) (1997). For the Court's discussion, see 525 US at 395-396.

63 525 US at 395, quoting Reply Brief (cited in note 51).

64 Section 251(c)(4) states that an incumbent must sell to rivals, at wholesale rates, any telecommunications service it provides at retail to subscribers. Section 251(b)(1) requires non-incumbents to also offer these services for resale, but that provision says nothing about the relevant price. 47 USC §§ 251(c)(4), 251(b)(1).

65 In essence, the incumbents were trying to stop a form of regulatory arbitrage.

66 47 USC § 252(i).

incumbents and other entrants, pull out a provision from a deal over here and another over there—hence the pick-and-choose denomination—and cobble them together into a single agreement.[67] But that interpretation, incumbents pointed out, undermines the "give-and-take of negotiation," since every concession made in one setting automatically becomes available in all future settings.[68] Incumbents therefore favored an interpretation where an entrant would be allowed to use an existing agreement but only if taken as a whole. As we said, the Court in the end sided with the Commission, reasoning that the Commission's approach, while unusual, tracked the actual language of the statute.[69]

Let us pause a moment here and insure that we have not lost the forest for the trees. In addition to some jurisdictional issues,[70] *Iowa Utilities* addressed a number of important questions about how mandatory sharing would work. The Court addressed these issues narrowly, focusing as it must on its job of statutory construction. But it ultimately approved and rejected an array of regulations that have significant implications for how sharing will work in the telecommunications market. Think, for instance, about pick-and-choose. An incumbent's natural response to the Commission's interpretation will be to push towards uniformity in its agreements, thereby minimizing the opportunities for cherry-picking across agreements. That does, to some extent, straitjacket the incumbents, and we should be concerned about that, but a countervailing benefit is that it pushes the incumbents toward nondiscrimination in their dealings with entrants. Non-discrimination duties are frequently imposed on regulated firms as part of sharing regimes[71] and they are normally quite difficult to enforce. The pick-and-choose rule goes at this from another angle, adopting something of a self-enforcing, de-centralized approach to nondiscrimination. Give some entrant a good deal on something and later entrants will grab it as

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[67] 47 CFR § 51.809 (2002) (Commission regulation implementing the provision).

[68] 525 US at 395.

[69] Id at 396.

[70] See note 6.

[71] See, for example, 16 USC § 824k(a) (2002) (nondiscrimination in wheeling electricity); 47 USC § 251(b) (nondiscrimination duties of local exchange carriers); 47 USC § 251(c) (additional duties for ILECs).

well, almost like a statutory most-favored-nation clause. This decentralized approach might very well be a superior alternative to centralized enforcement of non-discrimination obligations and ultimately an important factor in how the 1996 Act's overall sharing regime will work in practice.

B. *Verizon*

That takes us to this past Term and *Verizon*. At issue in *Verizon* was the Commission's approach to pricing shared access. Incumbent local exchange carriers challenged the Commission's rules on two grounds: first, that they were not a reasonable interpretation of the relevant provisions of the Act; and, second, that under the rule of constitutional avoidance the Court should interpret the 1996 Act to preclude the Commission's pricing methodology and in that way avoid the possible constitutional question of whether the statute as implemented by the Commission results in a taking of property in violation of the Fifth and Fourteenth Amendments. We will return to both of these arguments immediately below; but to understand them, it is helpful to begin by getting a sense of the issues at stake when it comes to setting the price for an unbundled network element.

The first issue is whether access prices should be set at the level of marginal cost. Basic economics teaches that marginal cost pricing leads to efficient use. But marginal cost pricing does not compensate firms for their non-marginal investments—in this case, investments in copper wires, computerized telephone switches, and other parts of the local telecommunications network. Denying incumbents any return on these investments seems unfair, and it also would distinguish this market from a well-functioning conventional market, since even conventional markets allow competing firms to earn returns on their non-marginal investments. Worse, there is a dynamic wrinkle, namely that if incumbents are treated unfairly in this instance, new entrants might be reluctant to enter the market for fear that future regulations will burn them, too.[72]

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[72] Of course, there are ways to compensate incumbents for their non-marginal investments while still setting access prices at the level of marginal cost. For example, the government could set prices at marginal cost—thereby maximizing efficiency—but then pay incumbents a one-time cash transfer funded by general tax revenues. If that seems too vulnerable to government

All this might in the end mean that the right approach is to sacrifice efficiency and build non-marginal costs into access prices. But which costs? For example, should incumbents be allowed to recover the costs of an expensive computer system that was purchased even though a less expensive alternative would have sufficed? How might such a purchase be distinguished from a computer system that was wisely purchased, or a computer system that was prudent when purchased but turned out to be useless or excessive?[73] Should we think differently about that question if it turns out that regulators encouraged incumbents to choose one computer system over the other? What if regulators were more passively involved, for example not explicitly weighing in on the decision but approving it after it was already made by the incumbent? Does that bind the government to later build the relevant expense into access prices on some form of implicit contract theory?[74]

These concerns represent just the tip of the iceberg. How should we account for the monies that incumbents have already earned on their infrastructure investments, ensuring that regulation does not allow the incumbents to recoup their expenses twice? How should non-marginal

error or abuse, an alternative approach would have the government set prices at marginal cost and then encourage incumbents to sue for fair compensation under the Takings Clause. This would introduce the courts as a check on the level of the transfer payment, and this is in fact one way to understand the *Verizon* litigation. For discussion of these ideas in the context of the patent system, see Michael Abramowicz, *Perfecting Patent Prizes*, Vanderbilt L Rev (forthcoming 2003); Douglas Lichtman, *Pricing Prozac: Why the Government Should Subsidize the Purchase of Patented Pharmaceuticals*, 11 Harv J L & Tech 123 (1997). Note that using the Takings Clause in this manner might be particularly attractive if our main worry here is that, in the heat of the moment, regulated parties will be mistreated. The reason is that the takings approach separates in time the decision to regulate from the decision over fair compensation.

[73] This is not just a hypothetical difficulty. For example, telecommunications firms have spent billions of dollars in recent years laying over 100 million miles of high-capacity optical fiber, yet it is estimated that only 2.7% of that installed fiber is currently being used. See Yochi J. Dreazen, *Wildly Optimistic Data Drove Telecoms to Build Fiber Glut*, Wall Street Journal (September 26, 2002). Was this a case of imprudent investment run amok, or did these investments make sense at the time but prove unwise in hindsight? For discussion of a similar problem in the electric industry—namely storage facilities built to accompany planned nuclear power plants where the relevant power plants were then never built—see *State of North Carolina Utilities Commission v Thornburg*, 325 NC 484 (1989) and *State of North Carolina Utilities Commission v Thornburg*, 325 NC 463 (1989).

[74] For more detailed discussion of the so-called regulatory contract, see Gregory Sidak and Daniel Spulber, *Deregulatory Takings and the Regulatory Contract* (Cambridge, 1997).

costs be adjusted in light of various tax and accounting issues; for instance, if an incumbent has depreciated the value of a given infrastructure investment in a particular way in order to achieve some tax advantage, should that depreciation path be binding in this setting as well? And, realistically, how well can we expect the government to estimate any of these many figures, given that the best source for all this information is the regulated incumbent itself, but the regulated incumbent has strong incentives to distort this information in ways that increase access prices?

A second set of issues here involves the relationship between access prices and the incentives firms face to either improve the existing network or build new infrastructure. Consider the incentives facing new entrants first. If access prices are sufficiently low, entrants have little reason to venture into the business of actually developing their own facilities. Why take on the risk of building it yourself when the existing infrastructure is available at a bargain price? That is not so troubling if we think that incumbents are better suited to build and innovate anyway—say, because they have more experience in the industry, or more financial wherewithal—but it is more likely that, when we say we want competition in the local loop, we mean that we want several firms working on new ideas about marketing, pricing, and, yes, the design of the network itself. If that is true, low prices can undermine a key objective of the Act.[75]

Of course, high prices can be just as bad. A sufficiently high price might lead entrants to build their own infrastructure even in instances where society would be better off had the entrants just shared existing equipment. Entrants would be building in this instance not because the

[75] Even if prices are low, entrants do still have some incentive to innovate. For instance, entrants have an incentive to innovate with respect to whatever infrastructure and services they combine with the incumbent's unbundled network elements; so, to be simple, if an entrant leases copper lines from the incumbent but is using its own computer system to provide internet access over those lines, obviously the entrant has incentive to upgrade and improve its own computer system. Similarly, entrants have some incentive to innovate with respect to leased elements, too. Staying with our simple example, if our hypothetical entrant sees a way to improve the copper lines, he might contact the relevant incumbent and offer to cut a deal, suggesting the improvement to the incumbent and in exchange demanding some sort of financial reward. Our point in the text is only that a significant incentive disappears if the regulated price of leased access is too low.

new infrastructure was cost-justified, but instead because the regulated price was artificially high. In some of these instances, the incumbent might voluntarily offer the entrant a lower price, thereby avoiding inefficient build-around. But that seems unlikely, at least if the incumbent's main goal is to keep the costs of entry high and thereby protect its market dominance. Moreover, even if the incumbent does offer a lower price, the Act will have played no role in that outcome; a world with a mandatory sharing regime and a sufficiently high access price is roughly equivalent to a world with no mandatory sharing regime at all.

Now consider the incentives facing incumbents. If our goal is to maximize incumbents' investment incentives, it is not at all clear how best to set the access price. On the one hand, if incumbents know that their facilities will be available to rivals at low rates, they might be reluctant to invest in new infrastructure. What would be the point, since any advantage would immediately be made available to rivals anyway? Worse, the costs of any errors would be borne entirely by the incumbent, since a dud technology would not attract any buyers. On this story, low access prices seem likely to discourage investment in unbundled network elements, driving incumbents to invest instead in their brand names and other resources not subject to mandatory sharing.

On the other hand, low access prices can stimulate investment. Consider, for example, an investment that would slightly decrease the marginal costs of providing some network element. If access prices are high, demand is likely low, and the allure of investing in this new technology is thus also relatively low. Saving a few pennies on each of a few sales simply does not warrant a significant infrastructure expense. If access prices are low, however, demand for the network element will skyrocket, and now the analysis might shift, since saving a few pennies on each of a large number of sales might very well justify a significant infrastructure investment.[76] Thus we can say nothing definitive about the access price that maximizes an incumbent's incentive to innovate.

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[76] This is a consistent with the literature that questions whether monopolists or competitors have a greater incentive to engage in innovation. The point there, and here, is that one important factor is the researching firm's expectations as to the number of units it will ultimately sell. For links into that literature, see Jean Tirole, *The Theory of Industrial Organization* 390-94 (MIT, 1988).

The Commission could not escape so easily; it had to promulgate some rule, and whatever rule it chose was going to have implications for all of the various incentives and debates outlined above. Congress had given the Commission little help in this effort. Remember, the relevant provision of the 1996 Act states only that firms should be allowed to purchase access to unbundled network elements at "just and reasonable rates" that are "non-discriminatory" and "may include a reasonable profit."[77] Good luck mapping those vague constraints to the practical issues at stake in the decision. Congress had offered one further bit of guidance, however, namely a clause in section 252 that states that rates should be "based on . . . cost" but "determined without reference to a rate-of-return or other rate-based proceeding."[78] That is a lot of lingo, but the clause seems to refer to and reject the conventional mechanisms that had previously been used to set prices in telecommunications and other regulated industries. Congress did not tell the Commission what alternative to adopt; but Congress seems to be saying that the old approaches—each fraught with difficulties well known in the network industries literature[79]—were not to be applied.

Writing on this virtually blank slate, the Commission adopted the following approach. First, the Commission chose to interpret "cost" to mean "forward-looking economic cost" instead of cost defined by the actual historic investments made in the particular element at issue.[80] The FCC defined the forward-looking cost of a network element to be the sum of "the total element long-run incremental cost of the element" (TELRIC) plus "a reasonable allocation of forward-looking common costs" where common costs are "costs incurred in providing a group of elements that cannot be attributed directly to individual elements."[81] Most controversially, the Commission announced that TELRIC would "be measured based on the use of the most efficient telecommunications

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[77] 47 USC § 252(d).

[78] Id.

[79] For an introduction to the standard approaches and their pitfalls, see Telecommunications Law and Policy at 425-29 (cited in note 6).

[80] See 47 CFR § 51.505 (2002).

[81] 47 CFR § 51.505(a) (2002).

technology currently available and the lowest cost network configuration, given the existing location" of the incumbent's wire centers.[82]

Again, a great deal of lingo; but the key insights here are two. First, when fully unpacked, the Commission's rule adopts a middling position with respect to most of the competing factors discussed above. Forward-looking cost as defined by the Commission focuses on marginal cost but also accounts for some fixed costs, some degree of profit, some degree of depreciation over time, and so on. It is in truth a complicated balance that, for better or worse, can be applied flexibly to various specific network elements. Second, and a bit more extreme, the Commission's approach does take a firm stance on the issue of incumbent-specific costs: while access prices will account for a variety of factors, those factors will largely be calculated in the abstract instead of being specifically mapped to the actual history of the network element at issue. This avoids the problem of relying too heavily on numbers that only the incumbent knows; and it also matches up with how value is calculated in competitive markets, since the value of any good is determined by its benefits and costs as compared to current alternatives, not the history of how much its seller spent in creating it. The downsides to this approach from the incumbents' perspective are that it might mean that some investments will never be fully recouped, and it almost surely means that access prices will steadily drop over time as new alternatives erode the value of existing infrastructure.

The legal analysis in *Verizon* did not end up delving significantly into any of the above details. The Court surveyed these issues, but on the question of whether the Commission's interpretation was reasonable, the Court quickly recognized that there was considerable discretion built into the statute. For instance, the incumbents had argued that the Commission's pricing methodology was not "based on . . . cost" because, among other things, the Commission had defined cost to mean the expense that would be incurred were an equivalent network built today instead of adopting the arguably more conventional definition that cost means actual monies spent. The Court responded that the word cost "is a virtually meaningless term" that gives "rate setting commissions broad methodological leeway" and says "little about the method employed to deter-

[82] 47 CFR § 51.505(b)(1) (2002).

mine a particular rate."[83] In short, given the vague language used in the Act, virtually anything the Commission had put forward in terms of its pricing methodology would have fallen within the scope of *Chevron* deference. When it came to access pricing, Congress seems to have had only one specific detail in mind—a distrust of the traditional approaches—and, whatever one wants to say about the Commission's rule, it certainly is not a traditional approach.

The possible issue with respect to the Takings Clause was also easily—albeit somewhat unsatisfactorily—resolved. Again, the incumbents had argued that the Court should interpret the 1996 Act to preclude the Commission's pricing methodology in order to avoid the possible constitutional question of whether the statute as implemented by the Commission results in a taking of property in violation of the Fifth and Fourteenth Amendments. The Court refused to do so on grounds that the takings claim as alleged by the incumbents did not itself raise a "serious question," or at least that it did not raise a sufficiently serious question to warrant application of the rule of constitutional avoidance. The primary reason was that the incumbents were endeavoring to challenge a pricing methodology as opposed to specific rates. This ran against the Court's "general rule" that it does not consider "a taking challenge on ratesetting methodology without being presented with specific rate orders alleged to be confiscatory."[84] The logic is that it is difficult to anticipate how a methodology will translate into numbers. The pricing methodology at issue in *Verizon*, for instance, was so flexible that it was still almost impossible for the Court to guess whether the resulting prices would be high or low, let alone unconstitutionally low in violation of the Takings Clause. The Court was thus reluctant to deem the constitutional issue sufficiently serious.[85]

All that strikes us as somewhat reasonable and we do not want to be unfairly critical; however, this decision to in effect defer the incumbents' possible takings claim had significant implications, and we are not con-

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[83] 122 S Ct at 1667 (internal citations and quotations omitted).

[84] Id at 1679.

[85] The Court did indicate that it might have been willing to further consider the takings claim if there were evidence that the regulatory change had been "arbitrary, opportunistic, or undertaken with a confiscatory purpose." Id at 1681. There was no such evidence presented, however.

vinced that the Court weighed them with care. First, by punting on the takings claim, the Court in essence set in motion fifty new lawsuits that will soon be filed in the federal courts, each alleging that the pricing provisions as tailored and implemented in a specific state violate the Takings Clause given the regulatory history of that state's incumbents. Maybe that flood of litigation was unavoidable, but one wonders nevertheless whether the Court could have said something more to help shape expectations and thus minimize the disruption those cases will ultimately cause.

Second and more broadly, while it might sound prudent to delay any serious takings analysis until actual numbers are in hand, the fact is that the benefits of delay are small and the costs are substantial. Focus on the benefits first. Delay does indeed mean that, when the claim is litigated in the future, there will be real numbers to work with instead of just a verbal description of the Commission's pricing methodology. But numbers really do not matter much when it comes to answering the basic questions about whether there can be a taking in a situation like this and, more specifically, how courts will ultimately calculate the extent of any such taking. These are difficult questions to be sure, but the answers are not at all tied to specific numbers. The Court was therefore in as good a position to answer them in *Verizon* as it will be in some hypothetical case down the road.

The benefits of waiting, then, seem small; but consider the costs. The Takings Clause is primed to play a central and beneficial role in the implementation of the unbundled network elements regime. For it to do so, however, both the Commission and the incumbents need to have confidence that ultimately a takings remedy will be available. Think of it this way: if the takings claim looks implausible, the Commission has to set prices with an eye toward balancing several competing factors. Specifically, the price has to promote efficient use of network elements in the short run; promote efficient investment in research and development by the incumbents in the long-run; similarly promote efficient investment in research and development by new entrants in the long-run; and on top of that address the distributional implications that are the core of the takings claim. This is hard to accomplish, both because the analysis becomes complicated with all these factors in play and because these factors often push in opposite directions. For instance, to maximize short-run efficiency, the Commission should set prices at the level of

marginal cost, but to address the distributional issue prices will certainly have to be far above marginal cost.

If the Commission and the incumbents have confidence that a takings claim will ultimately be successful, by contrast, the Commission can ignore the distributional issue when setting access prices and focus exclusively on the various incentive effects. It can do this knowing all the while that any distributional issue will be fairly addressed separately. This is important because it eliminates the tension identified above. If the distributional and efficiency issues can be handled separately, then when the Commission sets its prices it does not have to compromise on efficiency in order to account for distributional concerns. Instead, it can set prices that sensibly balance all the various incentives and then, through takings litigation, help to ensure that incumbents are fairly compensated for their losses. Incumbents, meanwhile, would in these circumstances be precluded from arguing against the Commission's prices on purely distributional grounds. That would not only narrow the grounds for disagreement but perhaps also dampen incumbents' incentives to delay implementation of the Act.

Again, all this is possible only if the Commission and the incumbents can have confidence that the distributional issue will ultimately be addressed. The *Verizon* Court did nothing in support of that aim. This is not suprising given existing Takings Clause jurisprudence. The leading cases do express a general reluctance to litigate takings claims in the abstract, and the Court certainly was understandably reluctant to rewrite takings law as part of the *Verizon* litigation. That said, however, the net result here is that the Court will have slightly better information to work with if and when it finally does evaluate the takings claim, but the bulk of the value in allowing that claim will have already been sacrificed.

II. Natural Monopoly and Entry

From its infancy, federal telecommunications law has proceeded on the assumption that local telephone service is a natural monopoly. That is, it has been assumed that costs in this market are such that it is less expensive for demand to be met by one firm than it is for demand to be met by any number of competing firms. In this section, we want to explore in some detail what it means to say that something is a natural monop-

oly and, further, what insight that might offer in terms of understanding the issues at stake in *Iowa Utilities* and *Verizon* and, more broadly, the local competition provisions of the 1996 Act itself.

A. Natural Monopoly in the Local Telephone Market

Let us start by making the case that local telephone service is indeed best understood as a natural monopoly. Again, the generic definition is that natural monopoly occurs where it is less expensive for demand to be met by one firm than it would be for that same demand to be met by some number of competing firms. One reason that this might be true in local telephony is that there are significant fixed costs associated with telephone service. For example, to provide service, a firm must lay wires throughout the relevant area and install appropriate computer equipment to route telephone signals along the network. It would greatly increase the total cost of telephone service to have two firms incur those same expenses in the same geographic area, and any such added costs are pure waste if a single network could have satisfied demand. Thus, on this argument, telephone service looks like a natural monopoly.

There are other reasons as well to think that local telephone service exhibits the properties of a natural monopoly.[86] For instance, an individual's demand for telephone service varies significantly from moment to moment and day to day; yet, in order to provide adequate service, the telephone company has to be ready to serve a given user whenever that user happens to pick up the telephone. If a different firm were to serve each user, there would be significant waste since almost all of each phone system's capacity would sit idle for most of the day. By having a single firm serve a large number of users, by contrast, the costs of providing phone service can be lowered dramatically. Several users can share a given amount of capacity, putting the equipment to better use since the variance in each consumer's demand would to some degree cancel out, leaving less of the phone system's capacity to sit idle at a given time. Sometimes—say, Mother's Day—everyone will want to use the phone at the same moment, and, at that time, some customers will be denied service; but, for most of the year, users can share capacity without any degradation in service, and thus it is cheaper to have a single firm serve

[86] Parts of this discussion are adopted, with permission, from Telecommunications Law and Policy at 614-18 (cited in note 6).

many customers than it is to have multiple firms serve that same number of customers.

Similarly, telephone systems are said to exhibit "network effects," which for our purposes means that the benefits of telephone ownership increase as the number of subscribers increases. A single telephone in isolation is of little value to its owner since there is no one to call. But the usefulness of that telephone grows exponentially as more and more people join the same telephone network. If there were competing telephone networks, to achieve this same level of value society would have to spend considerably greater resources. Perhaps consumers would have to purchase and maintain multiple telephones, using their WorldCom telephone to talk to their friends on the WorldCom network and their AT&T telephone to talk to their friends on the AT&T network.[87] Or perhaps the government would have to force the networks to interconnect—an expensive proposition given that it would likely require that the government monitor compliance, oversee negotiations, and otherwise help to ensure that the various reluctant allies work together. In short, network effects increase the value of having just a single telephone network, which is the same thing as saying that having multiple telephone networks increases the costs of achieving a given quality of service. That, like the two preceding arguments, makes it likely that local telephone service is a natural monopoly.

So what? As we will explain below, characterizing local telephone service as a natural monopoly tells us very little. It does not tell us whether we should expect to see competition. It does not tell us whether, if we see competition, we should be pleased or discouraged. It does not tell us that there should be regulation, nor does it tell us that regulation is unnecessary. Instead, characterizing local telephone service as a natural monopoly tells us only that there is an important conversation to be had—a conversation about the possibility of competition in

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[87] A similar set of issues is currently playing out with respect to instant messaging (IM). America Online has had the leading IM service. Entrants, including Yahoo and Microsoft, have sought to interconnect their IM programs with AOL's, in that way gaining quick access to a large pool of IM users. AOL has responded with technology walls that make it more difficult for new entrants to interconnect with the AOL IM network. Users, in turn, have responded by downloading multiple IM programs. See Jim Hu and Sandeep Junnarkar, *AOL Blocks Microsoft Net Messaging*, CNET News.com (July 23, 1999).

the first place, and the costs and benefits of competition should we believe it possible. It is to that conversation that we now turn.

B. Implications of Natural Monopoly

Natural monopoly suggests a contrast to *unnatural* monopoly or artificial monopoly. This is in fact how Judge Learned Hand saw the issue in 1945 when—because the Supreme Court could not muster a quorum[88]—the Second Circuit was called upon to offer the final word as to whether Alcoa had monopolized the aluminum market in violation of Section 2 of the Sherman Act:

> It does not follow because Alcoa had . . . a monopoly, that it "monopolized" the ingot market: it may not have achieved monopoly; monopoly may have been thrust upon it. If it had been a combination of existing smelters which united the whole industry and controlled the production of all aluminum ingot, it would certainly have "monopolized" the market. In several decisions the Supreme Court has decreed the dissolution of such combinations, although they had engaged in no unlawful trade practices. . . . [P]ersons may unwittingly find themselves in possession of a monopoly, automatically so to say: that is, without having intended either to put an end to existing competition, or to prevent competition from arising when none had existed; they may become monopolists by force of accident. . . . A market may, for example, be so limited that it is impossible to produce at all and meet the cost of production except by a plant large enough to supply the whole demand. Or there may be changes in taste or in cost which drive out all but one purveyor. A single producer may be the survivor out of a group of active competitors, merely by virtue of his superior skill, foresight and industry. In such cases a strong argument can be made that, although the result may expose the public to the evils of monopoly, the [Sherman] Act

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88 See *Allen-Myland, Inc. v IBM*, 33 F3d 194, 203 n10 (3d Cir 1996) ("In *Alcoa*, however, a sufficient number of justices were recused that a quorum could not be obtained; accordingly, the Supreme Court . . . remanded the case to the three most senior judges of the Second Circuit").

> does not mean to condemn the resultant of those very forces which it is its prime object to foster: *finis opus coronat*. The successful competitor, having been urged to compete, must not be turned upon when he wins.[89]

Hand's point is that artificial monopoly and natural monopoly require different sorts of legal responses. Mergers between rivals and collusion among competitors both create artificial forms of monopoly and, in Hand's view, both are rightly regulated under federal antitrust law. But "natural" monopoly—what Hand saw as monopoly thrust upon a firm either as the inevitable result of vigorous competition or because of the cost structure of the relevant market—is different. It might lead to the same evils in terms of high prices and restricted quantities, but it should be regulated, if at all, through special legislation targeted at the particular industry, not through the generic provisions of antitrust.

So far so good, but matters become significantly less clear when the question turns to what exactly that special legislation should say. Consider a core case of natural monopoly, for example a situation where a firm has to first undertake a substantial fixed cost before any units of the relevant product can be produced, but the firm can then produce as many units as it wants at a stable per-unit cost. Computer software, for example, matches this pattern. A company spends a substantial amount of money to write, test and debug its software, but once the product is in hand, it can produce as many CDs as it wants at a set per-unit cost.

Note why this cost structure can be thought of as a natural monopoly cost structure. The least expensive way to produce any amount of the good in question is to have one firm supply all comers. This is the con-

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89 *United States v Aluminum Co of America*, 148 F2d 416, 430 (1945). Hand wrote this against an almost non-existent Supreme Court backdrop. The Court had used the phrase "natural monopoly" only twice, first in 1910 in a dispute over a waterworks plant, *City of Omaha v Omaha Water Co*, 218 US 180 (1910), and then again in 1932 in a Fourteenth Amendment challenge to an Oklahoma statute restricting entry into the ice business, *New State Ice Co v Liebmann*, 285 US 262 (1932). Neither case had offered any real sense of how to think about natural monopoly or its implications. Perhaps even more interesting, the Court had not used the phrase in any of its three key pre-*Alcoa* decisions on the constitutional limits on public utility rate regulation—*Smyth*, *Southwestern Bell* and *Hope Natural Gas*—three cases that would today almost surely be analyzed as cases primarily about natural monopoly. See *Federal Power Commission v Hope Natural Gas Co*, 320 US 591 (1944); *Missouri ex rel Southwestern Bell Telephone Co v Public Service Commission of Missouri*, 262 US 276 (1923); *Smyth v Ames*, 169 US 466 (1898).

ventional—perhaps even natural!—definition of natural monopoly.[90] If two firms were to produce, the fixed costs would be incurred twice; and yet there would be no benefit, since per-unit cost is the same regardless of how production is split between the two firms. That is, if the industry produces ten units, the marginal cost of producing each unit will be the same regardless of whether all ten are produced by one firm, five are produced by one firm and five by the other, or any other pattern. The only cost that changes is the amount of money invested up front. Those fixed costs rise directly with the number of firms in the industry—two times the fixed costs with two firms, fifty times with fifty firms—and, focusing just on the costs of production, we are therefore better off having only one firm produce.[91]

But does this cost structure mean that we will see only one firm in the market? In short, does a natural monopoly naturally lead to monopoly? And, if so, what implications flow from that conclusion? Start with the second question first. If we would naturally see only one firm producing in a natural monopoly market, we would then need to be concerned about whether that firm can exercise monopoly power. The social harm of monopoly is well-known: monopolists tend to raise prices and restrict output, the net effect being both a transfer of wealth from consumers to the monopolist and pure deadweight loss in the form of efficient transactions that never take place due to the monopolist's supra-competitive price. This is an argument for regulating the monopolist's price and, if the monopolist can respond to price regulation by skimping on quality, then regulating his quality, too.

We should be careful though. Even if natural monopoly means that there will be only one firm producing, that does not at all imply that the firm will be capable of exercising market power. This is part of what had worried Hand in *Alcoa* and the same question has been an issue in the Microsoft antitrust litigation.[92] But the theory is clear: the threat of po-

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[90] See, for example, Dennis Carlton and Jeffrey Perloff, *Modern Industrial Organization* 101 (Addison-Wesley, 3d ed 2000).

[91] Notice that this is an argument about the costs of production; it says nothing about the price that will ultimately prevail. For discussion of other cost structures that lead to natural monopoly, see Telecommunications Law and Policy at 374-80 (cited in note 6).

[92] See Robert E. Hall, *Optimal Contracts to Defend Upstream Monopoly* 23 (January 25, 2000) (working paper on file with authors).

tential entry can exert substantial pressure on prices, even in a market where everyone knows that at the end of the day only one firm will remain standing. The idea is that the producing firm will in certain instances have to cabin its price in order to discourage would-be rivals from entering the market, undercutting the prevailing price, and ultimately taking over as the new monopolist. The credibility of this threat depends on a host of issues; for instance, if the existing firm can change its price quickly, the threat of entry might not be substantial, since the moment a rival enters the existing firm will be able to match the rival's price and in that way thwart the rival's strategy. Conversely, if the existing firm cannot change its price quickly, or indeed if it can change price quickly but is slow at detecting entry by a rival, then the threat of future entry is significant and the existing firm will face strong pressure to keep prices low.[93]

That answers the second of our questions, but what of the first? All of the analysis so far has assumed that, at equilibrium, natural monopoly means that there will be only one firm producing in the market. But that is not necessarily right, since even in the face of natural monopoly costs there is still often a real incentive for firms to enter the market. Be clear on what that means: even if we have a cost technology such that overall production costs could be minimized by having a single firm produce, we might see more than one firm producing. When might that be true? One key issue is what the potential entrant anticipates the incumbent producer will do in response to entry. For example, if the entrant believes that the incumbent will cut prices to marginal cost, the entrant would foresee little chance of recovering its fixed costs—hardly an attractive business plan to the venture capitalists or bond-holders forking over the money to pay the fixed costs. In contrast, if the entrant believes that it and the incumbent will be able to come to terms, either through explicit collusion or implicit interactions in the marketplace, the entrant may anticipate sufficient profits so as to justify entry despite the natural monopoly cost structure.

Economists, it turns out, have said a lot about all of this. If we expect the incumbent and the entrant to compete in prices—so-called

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[93] See William J. Baumol et al, *Contestable Markets and the Theory of Industry Structure* 2 (Harcourt, 1988).

Bertand competition[94]—then the resulting Nash equilibrium would result in marginal cost pricing and hence the entrant has no incentive to enter in the first place. In that case, natural monopoly does naturally lead to monopoly. If we expect the incumbent and entrant to compete in quantities, however—Cournot competition[95]—we may have entry by some number of firms and an equilibrium with some competition. Similarly, if we expect the incumbent and the entrant to bifurcate the market, with each firm specializing in some subset of customer needs or some specific geographic area, we might again see an equilibrium with multiple firms, this time with each firm acting as a monopolist to its own smaller sub-market.

Where does all this leave us? If we have natural monopoly costs and just one firm producing but we do not have potential entrants exerting pressure on prices, natural monopoly means a market where prices are inefficiently high. That is a problem and should make clear why rate regulation has been the historical legislative response to natural monopoly situations. If, by contrast, we have natural monopoly costs, one firm producing, and a real threat of potential entry, then we likely will have quasi-competitive pricing and, interestingly, no need for regulation. Lastly, if we have natural monopoly costs but nevertheless the possibility of multiple firms in the market, we have a choice to make. We can restrict competition—that is, turn away would-be competitors—and in that way force the market to revert to one of the two situations just considered. That was the traditional approach to the local telephone market adopted by federal telecommunications law in its infancy and maintained up until the 1996 Act.[96] Or we can embrace the possibility of competition but use regulation simultaneously to mitigate the economic waste it causes and to insure that prices stay well below the monopolistic level. This, as we will discuss further, is arguably the approach adopted under the 1996 Act.

Obviously this choice has implications not only for social welfare but also for would-be market participants. For instance, the first firm to

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[94] Carlton and Perloff, *Modern Industrial Organization* at 157-61 (cited in note 90).

[95] Id at 166-68.

[96] This parallels the long-standing approach of regulating entry by giving public utilities commissions the power to enforce certificate of convenience and necessity statutes.

enter a natural monopoly market might be reluctant to invest heavily without promises from the state that later competitors will be turned away. It is one thing to invest in a natural monopoly market where your firm will be the sole regulated entrant; quite another to invest in a natural monopoly market that might feature a revolving cast of would-be competitors. Local governments used to lure cable television providers by making just these sorts of promises.[97] Applicants would compete ex ante to be the chosen firm, but once a winner was chosen, that winner would be awarded an exclusive franchise for the term of the deal. Local officials would regulate cable prices and thus ensure that the chosen firm was not behaving as a monopolist, but in exchange the government would protect that firm from competition. Federal law changed to prohibit the practice in 1992, the fear being that the ability to grant exclusive licenses invested too much power in local government.[98]

C. Implications for the 1996 Act, Iowa Utilities *and* Verizon

The preceding analysis tells us what to expect if local telephone service turns out to exhibit the properties of a natural monopoly. Let us now connect these issues first to the 1996 Act and then to both *Iowa Utilities* and *Verizon*. We said in the Introduction that the purpose of the Act's unbundling provisions is to promote competition. But how does that claim link to the discussion here about natural monopolies? There are several possible answers.

One possibility is that the Act rejects the longstanding view that the market for local telephone service exhibits the properties of a natural monopoly. On this interpretation, either regulators have been wrong all these years about how the economics of this industry play out, or they have been right but the dynamics of the market are different now thanks to new technologies like wireless telephony and the possibility of carrying voice traffic over the cable television infrastructure. Note that the purpose of the 1996 Act on this story is to guide the transition from a

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[97] For discussion, see Telecommunications Law and Policy at 429-31 (cited in note 6).

[98] This change was made by the Cable Television Consumer Protection and Competition Act, which prohibited local government both from granting exclusive franchises and from unreasonably refusing to award additional franchises. See Cable Television Consumer Protection and Competition Act of 1992, Pub L No 102-385, 106 Stat 1460 (1992) at § 7(a)(1), codified at 47 USC § 541 (2002).

regulated natural monopoly to an unregulated, competitive market. Sharing provisions encourage entry during this transition period and possibly also make up for any advantages enjoyed by the incumbents by virtue of their long involvement in the local market. But on this view the sharing provisions should ultimately sunset once the transition period is complete.

A more likely interpretation of the 1996 Act is that it does not reject the notion that local telephone service is a natural monopoly, but instead simply reflects a new consensus that the costs of competition are not so high as once feared and thus a mix of competition and regulation might in the end be more attractive than an approach that relies on regulation alone. Phrased another way, it might be the case that the experience of regulating monopolist telephone carriers over the years has convinced Congress that regulation in that form is too costly, insufficiently effective, or both, and thus the 1996 Act experiments with a more competitive approach. Such an approach might mean increased economic waste, but the upside is that competition can supplement regulation and perhaps create better incentives when it comes to innovation, quality, and price. Note that, this time, there is no reason to believe that the 1996 Act will ever sunset; competition in this story is a supplement to, but not a replacement for, government regulation.

It is tempting to offer two other possible interpretations of the 1996 Act, but neither is correct. The first would suggest that the Act's real purpose is to help policymakers answer the question of whether and to what extent local telephone service is a natural monopoly. On this view, if entrants invoke the mandatory sharing provisions, then it can be assumed that the market has natural monopoly properties, whereas if they build their own infrastructure, the opposite implication can be drawn. That would be great, but it turns out that neither of those inferences hold. Entrants will use the shared access provisions if the regulated price of access is lower than the price of self provision, a decision that has nothing to do with natural monopoly and everything to do with regulation. Similarly, entrants will build their own facilities if the regulated price is higher than the price of self provision, again irrespective of any natural monopoly issues. This is one of the reasons why the pricing rules at issue in *Verizon* are so important; the government is regulating prices because of a natural monopoly problem, but it is those prices—not the

underlying economics of the market—that will determine both patterns of entry and the incentive to develop new infrastructure.

The second tempting but incorrect interpretation casts the 1996 Act as an exercise in deregulation. As is surely clear by now, that is not at all right, since the Act introduces a great deal of new regulation, and much of it will powerfully influence behavior in the local telephone market. That said, the 1996 Act does promise to diminish the importance of regulation, since if competition takes hold, competitive forces will do some of the work formerly accomplished by government fiat. The 1996 Act, then, is probably best understood as regulation designed to harness competition. Regulation will still in some instances be outcome-determinative, but in most cases outcomes will be determined by some combination of regulation and competitive pressures.

Turn now to *Iowa Utilities*. We pointed out above that there is no natural connection between a natural monopoly cost structure on the one hand and the possibility of competitive supply on the other. As applied to local telephone service, this means that network elements—even network elements that exhibit the properties of a natural monopoly—can in certain cases be competitively supplied even in the absence of regulation. The upside is that competitive supply might yield good incentives for quality, pricing, and innovation; the downside is that competitive supply in the face of natural monopoly risks wasteful duplication of resources. The 1996 Act does not specifically speak to this tradeoff, and thus it does not give the Commission direct guidance in how to react to this possibility of competition. Based solely on the provisions enacted, it is possible that Congress meant to unbundle only those elements where competition was unlikely. But it is also possible that Congress meant to unbundle any element that exhibits natural monopoly properties.

This was part of what the Commission had to struggle with when interpreting the necessary and impair standards of section 251(d)(2). And, while the Commission did not issue a clear final statement on this particular question, the regulations at issue in *Iowa Utilities* certainly were broad enough to include in the unbundling regime elements where competition is possible even without mandatory unbundling. The Court did not reject this conclusion *per se*; as we have pointed out, the Court merely pushed for further explanation as to how the Commission had come to this conclusion and, more specifically, how the possibility of

market provision affects the scope of the unbundling requirement in the Commission's view.

Verizon addressed issues a little further removed from our basic intuitions about natural monopolies. The core issue there was the price at which the government would require incumbents to sell access to their unbundled network elements; and, while an understanding of natural monopoly helps us to think about whether sharing itself makes sense, that understanding tells us very little about the optimal price at which any sharing should take place. That said, our discussion of natural monopoly does elucidate one aspect of *Verizon*, namely the incumbents' takings claim. As we explained above, while natural monopoly can lead to any number of regulatory responses, firms in a regulated market care a great deal about which regulatory response is chosen. Indeed, firms rely on and react to the government's decision with respect to regulatory form, adjusting their pricing and investment patterns accordingly. This is the core insight behind the incumbents' takings claim. Their objection is that the government changed the rules of the market midstream, leaving incumbents holding the bag with respect to their long-term investments. The strength of that argument depends on a number of factors—including whether the incumbents should have expected the possibility of regulatory reform, and whether the incumbents have already earned sufficient returns on their investments anyway—but the core insight is that firms working in regulated natural monopoly markets do make investment decisions that are in part contingent on which of the several plausible regulatory responses the incumbent expects.

III. Shared Access Under the 1996 Act

We are now ready to consider in more detail how regulation of the form established by the 1996 Act differs from regulation as it had previously existed in the local telephone market. We will focus on three principal changes. First, under the old approach, local telephone service was regulated under the assumption that there should be only one monopolist seller serving each community. The 1996 Act, by contrast, allows for multiple competing sellers. Second, under the old approach, the entire local loop was lumped together and regulated as an undifferentiated whole. The new approach attempts to quarantine the effects of regula-

tion by focusing more narrowly on particular network elements. Third and finally, the old approach relied heavily on government regulation of output prices, by which we mean regulation of the prices for goods and services sold directly to consumers. The new approach continues to rely on output price regulation but adds in addition regulation of input prices, namely the prices incumbent local telephone companies charge new entrants for access to unbundled network elements.

A. One Infrastructure, Several Owners

We have thus far identified as a natural monopoly any market where it is less expensive for demand to be met by one firm than it is for demand to be met by some number of competing firms. That is the standard definition of natural monopoly, but it is not quite right. A more precise variant would state that a natural monopoly exists whenever it is less expensive for demand to be met using a single *infrastructure* than it is for demand to be met using multiple, uncoordinated infrastructures. To see what we mean, and why this point is so important to understanding the 1996 Act, consider two examples.

Start with cable television. It is easy to see that cable television likely exhibits the properties of a natural monopoly. The main cost incurred in providing cable television comes in laying the cable grid. Once that cost has been incurred and there are wires running along all the major streets, the cost of supplying cable to an additional home is relatively small. A single cable grid can typically serve all customers who are willing to pay the marginal cost of cable service, and thus cable television is likely a natural monopoly: costs are minimized by having only one cable grid in each geographic area.

Natural monopoly thus implies that there should be only one cable infrastructure. It tells us nothing, however, about how many firms should own that single infrastructure. Suppose, for example, that two firms were ordered to share ownership of a given community's cable grid, with one firm programming fifty channels and a competing firm programming a different fifty channels. That sort of competition would not be wasteful since there would be no duplication of the natural monopoly infrastructure. Moreover, it would offer some benefits, for example ensuring some diversity in terms of content and viewpoint. It would thus be fully consistent to say that cable television exhibits the properties of a natural monopoly and that cable regulation should ensure that each

community has one cable grid but several firms using that grid to offer cable television.

Consider now a second example, this one drawn from the 1912 Supreme Court decision in *Terminal Railroad*.[99] At issue was an organization called the Terminal Railroad Association. Jay Gould—one of the great figures in late nineteenth century railroading and telegraphy—had combined into the Terminal Railroad Association the three main routes by which railroads crossed the Mississippi River at St. Louis. These were the ferry system run by Wiggins Ferry Company, a bridge called Eads Railroad Bridge, and another bridge called the Merchants Bridge. The United States challenged the three-way combination under the Sherman Act, apparently afraid that competition in the railroad industry would suffer in a world where a single entity controlled every plausible means for crossing the Mississippi at St. Louis.

The government's case was not particularly strong, as there was no obvious discrimination by the railroad association in favor of insiders and against outsiders. That is, Gould's railroads used the terminal facilities on the same terms that non-affiliated railroads used the facilities. Of course, given our concern about monopoly pricing, that could just mean that all of the railroads were being gouged by the terminal association. But the association was operated on a non-profit basis, just covering costs and never paying dividends, and so it seems unlikely that monopoly prices were being charged.[100] The terminal association had also expanded over time—moving from six members to fourteen—turning outsiders into insiders and thus further undermining any claim that Gould was using his position to favor his own railroads over competing ones.

The Court saw much of this, recognizing that there was no real problem with respect to equal access—at least, not yet—and also that operating the three facilities together had some likely efficiency benefits. But the Court still found that Gould had violated the Sherman Act. The problem was not unequal access. It was unequal ownership. This is

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[99] *United States v Terminal Railroad Ass'n of St Louis*, 224 US 383 (1912).

[100] This is somewhat tricky, as the Court recognized. Understanding who was making money on nineteenth century railroads requires close tracking of the cash. You might lose money on the railroad proper and make it up by owning the construction company doing the building. In *Terminal Railroad* itself, it is possible that Gould and his compatriots were making money from the bonds of the association rather than the stock. See id at 401.

apparent from the Court's ultimate remedy. The Court did not require that the three means for crossing the river be operated separately. Instead, the Court simply required that Gould offer all existing and future railroads the opportunity to join his Terminal Railroad Association on "just and reasonable terms."[101] This would make the terminal association "the agent of all" and would legitimate Gould's unification of the facilities.[102]

We can quibble with this result. For instance, it is far from obvious that the Court's solution actually accomplished anything. Prior to its ruling, fourteen insiders made decisions for the group of twenty-four users, and ten outsiders had no say. After the ruling, if internal decisions are made by majority vote, the same fourteen can continue to set policy. It is true that if there were direct benefits flowing to the owners as such—returns on equity—those presumably would have to be shared with the now larger group, but there is nothing in the case to suggest that special returns were flowing to the equity holders. But the big picture here is that the concern in this case was not the existence of a single infrastructure for crossing the Mississippi, but was instead the fact that the single infrastructure was controlled by a single entity, namely Gould's Terminal Railroad Association.

How does all this tie into the 1996 Act? Prior to the 1996 Act, local telephone regulation had proceeded under the implicit assumption that, if there was going to be only one local telecommunications network, it should be owned and operated by only one local telecommunications firm. The 1996 Act rejects that assumption, following the lesson of *Terminal Railroad* and thus opting for what is in essence shared ownership of the local network. It is possible that, years from now, there will still be only one infrastructure. But, even if that happens, under the 1996 Act there will at least be competition over the use of that infrastructure. Any firm can use the shared infrastructure to offer its own unique mix of services and products, and each firm can add to that shared infrastructure its own additional proprietary elements. Rejection of the old approach—one infrastructure, one firm, one array of product

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[101] Id at 411.

[102] Id at 405.

offerings—is thus the first significant difference between telephone regulation before and after 1996.

B. Natural Monopoly and the Quarantine

Now for the second big change: from a regime where the entire local market was regulated as a cohesive whole to a regime where regulations attempt to target more narrowly specific network elements. Start in the pre-1996 Act world. Even though a would-be entrant had no right to enter the market, potential entrants did have a strong incentive to innovate with respect to local telephone infrastructure, products, and services. After all, if an entrant were to come up with some new innovation—say, caller ID—the incumbent might want to purchase it, since in the incumbent's hands the new technology could be lucrative. Granted, the incumbent would likely be somewhat miserly in the negotiation, knowing that the entrant has few other potential buyers. At the same time, however, the incumbent would not want to be too miserly, since a reputation for paying well would encourage other entrants to develop new technologies, and those technologies might also be profitable in the incumbent's hands. Voluntary transactions, then, themselves created a real incentive for would-be entrants to innovate, even prior to the 1996 Act.

So why did Congress intervene? Mainly because those voluntary transactions served to benefit the incumbent at the expense of both consumers and the entrant. Focus first on consumers. Prior to the 1996 Act, an incumbent might purchase new technologies, yes, but it would not share its monopoly position with another firm. So while consumers did enjoy some benefit from innovation in terms of getting access to new products and services, consumers did not get one important possible benefit: competition. If entrants had been allowed to use their innovations to enter the market, by contrast, innovation would have meant new products and also lower prices. Now turn to the entrants. If a would-be entrant came up with a new technology that created $200 in value, the entrant would not keep the full $200. It would keep some, sure; but the incumbent would capture some of that upside as well, since without that there would be no reason for the incumbent to purchase the invention. Thus entrants earned less of a reward—and therefore had less of an incentive to innovate—than they might have otherwise had.

Now consider the world after the 1996 Act. Entrants who develop new infrastructure, products, or services can enter the market without the incumbent's permission. The entrant might have to pay a regulated fee to the incumbent for access to some UNEs; but, beyond that, the entrant is free to use any new invention to compete with the incumbent. That might mean that the entrant will earn more from its innovation than it did under prior law, since this time the returns are not shared with the incumbent. Or it might mean that the entrant earns less, since competition between the incumbent and the entrant might drive prices down. But, either way, the benefits of innovation now go to either the entrant/innovator or consumers, instead of going in large proportion to the incumbent.

Interestingly, the entrant's incentive to innovate might be even greater than the above analysis suggests. To see why, think about inferior technology. In the pre-1996 Act world, an entrant who came up with some inferior technology had nothing to offer. There was no point in reaching out to the incumbent and asking about a deal; the incumbent was not interested in buying technology that was inferior to its own. For the entrant, this meant that investments in research paid off only if the result was an actual improvement over existing technology. Now jump to the world made possible by the 1996 Act. In this world, an entrant who develops a technology superior to the incumbent's clearly has something of value. The entrant can sell it to the incumbent, or the entrant can use it to enter the market. But—and here is the interesting part—an entrant who develops an inferior technology can also in certain settings enter the market. Yes, the incumbent will have a better product or lower costs; but the entrant might still be able to compete, for example if market prices are far enough above both the incumbent's and the entrant's total marginal costs. This artificially increases the entrant's incentive to engage in research. Whereas before the only good outcomes to research were ones where the resulting technology was superior to the incumbent's technology, now the entrant can benefit both when research "succeeds" and, albeit to a lesser extent, even when research "fails."

So far, we have focused on reasons why the approach to natural monopoly under the 1996 Act is an improvement over prior law. But there are obviously drawbacks, too. Consider, for instance, the difficulties that will arise every time the incumbent decides to change some basic element of the telephone network. If the incumbent owned the entire net-

work—UNEs plus all other components—it could coordinate change. It would have a sense of the full system-wide costs and benefits associated with any upgrade, and it would be able implement any desirable upgrade in a consistent manner. If components of the network are separately owned, by contrast, change becomes more difficult. A company that sells only end-user equipment, for example, will fight tooth and nail against any network change that might decrease the value of its equipment, regardless of the overall costs and benefits to the system.[103] Even if that firm were to agree to a change, the costs of passing information and otherwise coordinating an improvement would certainly be higher. In short, bifurcated ownership creates bifurcated information and incentives; and there is something to be said for a market structure where, instead, the telephone network is maintained and analyzed as a coherent whole.

C. Natural Monopoly, Input Prices, and Output Prices

The third big change—in essence, the introduction of network element pricing—is in many ways just a necessary ramification of the second. That is, given that the 1996 Act regulates UNE by UNE instead of lumping together the entire local telephone infrastructure, the government had to set prices for UNEs. This is actually the link between *Iowa Utilities* and *Verizon*. *Iowa Utilities* is a fight over the scope of access; *Verizon* is a challenge to the pricing rules that will apply however the access issue shakes out. For better or worse, then, regulating "input" prices was foreordained, at least if the narrower quarantine was going to be meaningfully accomplished.

That said, there is no reason to either celebrate or lament this change. Regulating input prices does not seem likely to be substantially harder or easier than regulating output prices; both, it turns out, are complicated and difficult to accomplish. The first problem is information. In *United States v. American Telephone & Telegraph*,[104] the government argued that one reason to break up the then-dominant Bell Tele-

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[103] But see *In re Use of the Carterfone Device in Message Toll Telephone Service*, 13 FCC 2d 420, 424 (1968) (rejecting this same argument in a dispute over whether telephone handsets had to be approved by the telephone company or could instead be supplied competitively).

[104] 552 F Supp 131 (DC Cir 1982).

phone Company was that it was impossible for the government to regulate Bell effectively. Bell had all the information about the costs of providing various telephone services. The government was thus in the uncomfortable situation of setting policy and prices based on information provided by the very firm it was trying to regulate. Worse, the government argued that Bell would intentionally keep itself in the dark about some information, not gathering it so as to ensure that the government could not use that information against Bell in regulatory proceedings. The resulting argument was thus not the conventional claim that a monopolist was pricing excessively above cost or even predatorily below cost; the government's claim was that Bell was pricing *without regard to* cost, and the government did not know enough about costs to intervene effectively.[105] That problem to some extent continues today, and it seems to apply equally to both input and output prices.

A second and more significant problem stems from the complicated relationship between prices and innovation incentives. If price regulation were merely designed to keep prices low, regulation would be relatively straightforward; the government can gather good information about consumers' willingness to pay for various telecom services, and the government would therefore be able to adopt relatively effective, aggressive pricing measures if the only goal were to ensure that most consumers can afford most telephone services. But the goal of price regulation is significantly more complicated, as it is designed not only to keep prices low for existing services but also to encourage firms to maintain quality, minimize costs, and invest in new infrastructure. Accomplishing all that is no easy task, even if price regulation just focuses on the output market.

Take one example: price cap regulation. Under this approach, the government announces a maximum price that can be charged for some service and further specifies how that price will change over time to account for expected efficiency gains, inflation, and so on. The idea is to give the regulated party a strong incentive to minimize costs. If the regulated firm can lower its costs, it can keep the extra profits for itself. The government, meanwhile, can regulate in this fashion even without

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[105] Roger Noll and Bruce Owen, *The Anticompetitive Uses of Regulation: United States v AT&T*, in J. Kwoka and L. White, eds, *The Antitrust Revolution* 290, 295-326 (Scott, 1989).

knowing very much about the regulated firm's cost structure. The government just sets a price that seems reasonable given past prices and expected consumer demand, and the rest takes care of itself.

So far, so good. In practice, however, there are problems. First, price cap regulation tempts firms to slash costs not only by increasing efficiency but also by skimping on quality. That is, there are two ways to increase profits under a price cap: one is to provide the same service at lower cost, but the other is to provide worse service. Price cap regulation might therefore ironically encourage firms to offer cheap, low-quality service instead of more expensive, higher quality service. Second, because the government cannot credibly commit not to change the price cap, the incentive to lower costs is in fact significantly weaker than at first appears. If the regulated firm does a great job at cutting costs, there is some chance that the government will renege on the deal and lower the price cap. A regulated firm making a large profit and charging high prices is just too easy a target.[106] Conversely, if the regulated firm sees its costs skyrocket, it is likely that the government will bail the firm out by raising the price cap instead of, say, allowing the lone local telephone provider to go bankrupt. Both of these responses undermine the incentive to cut costs. The upside to cost reductions is reduced since the government might recapture some of that savings for consumers, and the downside to waste is also reduced since the government might allow the firm to raise its prices if costs are overwhelming revenue.

Moreover, the details of the price cap regime alter these dynamics in important ways. Consider again the possibility that firms will make "too much" money under a price cap regime and that regulators will seek to re-cut the deal afterwards. Individual firms would anticipate that and would seek to avoid "excess" profits by spending more excessively. This might lead to nice cars for firm executives, fancy offices, and so on. But the incentive of individual firms to pull back on the profits throttle depends critically on whether the regulator sets policy at the firm level or the industry level. If the price cap is altered at the firm level, the dynam-

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[106] To see the enormous instability associated with price cap regulation in practice, consider the cases on price cap regulation as it applied to the interstate services of local telephone exchange companies: *US Telephone Ass'n v FCC*, 188 F3d 521 (DC Cir 1999); *Bell Atlantic Telephone Companies v FCC*, 79 F3d 1195 (DC Cir 1996); and *National Rural Telecom Association v FCC*, 988 F2d 174 (DC Cir 1993).

ics play out as we have indicated. If instead the price cap is based on overall industry profits, individual firms may lack the incentive to cut back. The firms in the industry face a collective action problem: their individual decisions matter only at the margin for the industry outcome, and, given that, they may as well make as much money as they can. Doing that, however, ends up hurting them all, because the regulator will see those profits and react accordingly.

Overall, the point here is simply that price regulation is complicated even when applied to outputs. It is therefore not the case that the 1996 Act moves regulation away from a type of regulation that has been very successful and towards one that is more precarious. Price regulation is difficult no matter whether it applies to inputs or outputs, mainly because both require the government to make educated guesses about costs and incentives, two things about which the government understandably knows very little. The main policy concern, then, might just be transition costs. That is, the strongest argument against the new pricing regime might simply be the cost of designing—and litigating over—a new system. Beyond that, price regulation for inputs presents different complexities than those already familiar under price regulation for outputs, but there is no reason to think that the one is any more difficult than the other.

IV. The State of Entry in Local Telecommunications

We have covered a great deal of theory; it is thus here a good time to pause and look at practical consequences, specifically some data relating to the state of entry in local telecommunications. When a good business can be made out of melting down millions of dollars in redundant telecommunications equipment to recover precious metals,[107] we know that serious mistakes have been made, though not necessarily that we could have done any better. And so let us ask: what has entry looked like in local telecommunications? Has the 1996 Act resulted in overinvestment

[107] See Dan Roberts, *Glorious Hopes on a Trillion-Dollar Scrapheap*, Financial Times (Sept. 5, 2001). For more detail, visit the Shields Environmental website at <http://www.shields-e.com> (visited November 1, 2002).

in local telecommunications, underinvestment, or in Goldilocks fashion, did it get it just right?

As of December, 1999—roughly three years after the 1996 Act went into effect—CLECs held roughly 4.3% of the market in end-user switched access lines.[108] By June 30, 2002, total lines had drifted down slightly from roughly 189.5 million to 189.1 million, after peaking at 192.6 million at the end of 2000. Since December 1999, CLEC market share has grown steadily, reaching 11.4% as of June 30, 2002. This entry disproportionately targets medium and large businesses, institutions and the government. As of mid-year 2002, incumbents had 78.3% of their lines with residential and small business customers, while CLECs had only 51.2% of their lines with these end-users.[109]

Of the roughly 21.6 million CLEC lines with end-users as of mid-2002, 28.8%, or about 6.2 million, were CLEC owned; 50.5%, or about 10.9 million, were provided through UNE access; and 20.7%, or about 4.5 million were provided through the resale provisions of the Act. The resale provisions, as you might recall, basically mean that the entrant is buying service from the incumbent at regulated, wholesale rates and then re-branding it for sale to end-users. Between December 1999 and June 2002, the number of CLEC-owned lines more than doubled, but actually dropped as a percentage of the total number of CLEC end-user lines (from 33.2% to 28.8%).[110]

From the perspective of the incumbents, the direct burden of CLEC access is growing. The number of resold lines purchased by CLECs rose from roughly 1.7 million in December 1997 to 5.4 million in December 2000 and then fell to 3.5 million as of June 2002.[111] This suggests that resale has become relatively less attractive. UNE access,

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[108] See FCC, Industry Analysis Division, *Local Telephone Competition: Status as of June 30, 2002* at Table 1 (2002) (available online at <http://www.fcc.gov/Bureaus/Common_Carrier/Reports/FCC-State_Link/IAD/lcom1202.pdf>).

[109] Id at Table 2.

[110] Id at Table 3.

[111] For those reading carefully, note that as of June 2002, while CLECs resell 3.5 million lines from ILECs, total CLEC resales are at 4.5 million lines. The 1 million difference presumably reflects lines resold from sources other than ILECs.

meanwhile, is growing rapidly. CLECs have gone from 133,000 UNE-accessed lines in December 1997 to 1.5 million in December 1999 to 11.5 million in June 2002. Still, the overall presence of CLECs on ILEC premises is small: only 8.3% of all ILEC lines were being either resold or accessed under the UNE provisions as of June, 2002.[112]

Not only is CLEC entry targeted on heavy users—large businesses and the government—but, unsurprisingly, it focuses on dense population areas. As of June 2002, 33% of US zip codes had no CLECs and another 19.5% had only one. Only 6.6% of US households actually live in the zip codes without a CLEC, however, and another 9.1% of US households live in zip codes with only a single CLEC entrant.[113] This is somewhat interesting, as it offers some sense of the costs of entry. Remember that CLECs were using their own lines only 29% of the time as of June 2002, though, to be sure, they could have been using some of their own facilities in conjunction with ILEC lines in the other 71% of the cases. Still, the CLECs are not choosing to enter rural areas using just the ILEC's equipment, even though they obviously do a fair amount of this in densely-populated areas. This suggests that some costs, such as advertising costs and other brand-building expenditures, are best spread over dense areas and that these costs are important in explaining the pattern of CLEC entry.

In sum, after nearly seven years under the 1996 Act, CLECs have about 11% of the end-user lines market, and, of that, roughly 71% of the lines are owned by other carriers. Put differently, at least over the so-called last mile, CLECs provide service over their own lines for only 3% of the market. The 7% of the market covered by CLECs using the lines of others should be counted as at least a partial success for the Act, as in some of those situations, the CLEC may be using some of its own facilities to provide telecommunications service.

All of this confirms what we instinctively knew, namely that the real hot spot for consumers is not landlines, but cell phones. The competition in local markets that was to come from CLECs really seems instead to be coming through wireless. Mobile wireless telephone subscribers have jumped from roughly 79.7 million in December 1999 to 128.8 mil-

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[112] Id at Table 4.

[113] Id at Table 12.

lion in June 2002.[114] In that same period, end-user switched access landlines declined slightly, dropping from 189.5 million to 189.1 million. That looks like a declining market, especially as measured against the December 2000 peak of 192.6 million lines. Market shares have moved around during that period: CLECs added about 13.4 million lines and ILECs lost about 13.8 million lines. But, obviously, the major action is in cell phones, where carriers added 49.1 million cell phone users during the same period.[115] Now lines are a crude measure; we might care more about market share as defined by the number of minutes used—that would be true for evaluating CLECs as well—but industry analysts believe that as many as 10 million landlines have been displaced by wireless lines.[116]

What do these numbers mean for our questions? We said before that we cannot assess how competitive a market is by the number of participants, so the fact that CLECs have an 11% market share tells us nothing directly. The threat of entry itself might be significantly altering incumbent incentives and market prices. Similarly, the fact that many CLECs have entered and failed—more than 50 CLECs are reported to have filed for bankruptcy[117]—does not tell us much either. It would make no more sense to say that a drug company wasted the first ninety-nine petri dishes when it turned out that the new blockbuster drug was in the hundredth dish. The nature of research and development is substantial failure, and failure alone cannot be seen as equivalent to waste. What of missing investment? It is almost impossible to quantify the extent to which incumbents may have been discouraged from either making new investments or repairing old investments, just as it is hard to quantify how much new research is being done by entrants. It might also be somewhat unfair to evaluate any of these numbers at this stage, since entry and competition in the local market have throughout this period taken place under the shadow of considerable legal uncertainty. That

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114 Id at Table 11.

115 Id at Tables 1, 11.

116 FCC, Seventh Report, *In the Matter of Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993; Annual Report and Analysis of Competitive Market Conditions With Respect to Commercial Mobile Services*, 17 FCC Rcd 12985 (2002).

117 Jeffrey A. Eisenach, *The Real Telecom Scandal*, Wall Street Journal (September 30, 2002).

uncertainty has been partially diminished, but as we will explain below, even now there are clouds on the horizon.

V. Conclusion

The data presented in the previous section offer at least a partial answer to the question of what the 1996 Act has actually accomplished thus far. Here, let us conclude by asking the same question about the Court: namely, after millions of dollars and several years of litigation, what have the Court decisions in *Iowa Utilities* and *Verizon* actually accomplished?

The Court in *Iowa Utilities* accomplished a great deal, in that the opinion both resolved many of the jurisdictional issues related to the implementation of the Act and forced the Commission to more carefully articulate its understanding of the unbundled network element regime. Results followed quickly. In 1999, the Commission released new regulations specifically designed to respond to the Court's objections. These new regulations "take into consideration alternatives outside the [incumbent's] network" and also consider "whether those alternatives are actually available to the requesting carrier as a practical, economic, and operational matter."[118] The new regulations unbundle only in instances where a "lack of access" to the requested element "materially diminishes a requesting carrier's ability to provide the services it seeks to offer"[119] and they emphasize in addition five relevant factors: the rapid introduction of competition in all markets; the deployment of new telecommunications infrastructure; reduced regulation; certainty in the marketplace; and administrative practicality.[120] In short, the new regulations respond to all of the issues raised in *Iowa Utilities*.

Unfortunately, things have not gone well from there. In May 2002, the DC Circuit vacated the Commission's revised regulations.[121] The problem this time was that, except for two elements, the Commission's

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[118] FCC, Third Report and Order, *In re Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, 15 FCC Rcd 3696, at ¶ 8 (1999).

[119] Id at ¶ 51.

[120] Id at ¶¶ 103-16.

[121] *United States Telecom Ass'n v FCC*, 290 F3d 415 (DC Cir 2002).

rules applied "uniformly to all elements in every geographic or customer market."[122] The D.C. Circuit found this inadequately justified, with the court wondering why differences between the various markets—the court's main example is differences in state regulations, though there are obviously economic differences as well—were not being accounted for in the unbundling rules. Interestingly, this question mirrors one of the core issues raised in *Iowa Utilities*, namely whether the Commission's rules have to account for the possibility of voluntary market transactions. The similarity is that, in both instances, the basic dispute is over the extent to which unbundling rules need to be sensitive to actual market conditions; the Supreme Court wanted more sensitivity to the scope of available voluntary transactions and self-provisioning, while the D.C. Circuit now wants more sensitivity to any differences in each state's economic and legal terrain.

In any event, the Commission is as of this writing back at work on its rules. This is unfortunate in the sense that these continued iterations have prolonged the process of implementing the 1996 Act and have increased the underlying legal uncertainty, two effects that have likely reduced overall investment in the local telecommunications market. But it would be unreasonable to expect that the Court would anticipate all possible interpretive issues related to the "necessary" and "impair" standard, and so it is hard to fault the Court for not spotting this issue back in *Iowa Utilities*.

As for *Verizon*, the Court did resolve the dispute over TELRIC, thus paving the way for the Commission's pricing methodology to be implemented in the states. Feedback from that process should help the Commission adjust its methodology to better serve the goals of the 1996 Act, and of course implementation at the state level is the next big step in terms of bringing the 1996 Act into full effect. Our concerns with respect to the Takings Clause, by contrast, were left largely unresolved. As we have pointed out, that is unfortunate; delaying the takings analysis likely means that the Takings Clause cannot serve what would have been a valuable purpose, namely allowing the Commission to address separately the distributional and efficiency issues implicated by access pricing.

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[122] Id at 419.

Ironically, then, while *Iowa Utilities* will for the next many years be an important window through which regulators and industry participants will understand and evaluate both the 1996 Act and access rules more generally, it is possible that *Verizon* is destined to quickly become a footnote in the history of telecommunications regulation. The case seems likely to have legs, if at all, as part of Takings Clause jurisprudence—not yet, and not for what it says or does, but for what it failed to do and for the series of events implicitly put into motion by virtue of the Court's decision to postpone the takings issue.