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Does the Constitution Require That We Kill the Competitive Goose? Pricing Local Phone Services to Rivals

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DOES THE CONSTITUTION REQUIRE THAT WE KILL THE COMPETITIVE GOOSE? PRICING LOCAL PHONE SERVICES TO RIVALS

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This Article concludes a series by these authors and Professors J. Gregory Sidak and Daniel F. Spulber, published last year in this journal. Here, Professors Baumol and Merrill address the issues surrounding the pricing of local phone services to long distance rivals, clarifying their points of agreement and disagreement with Sidak and Spulber. In their previous articles, Sidak and Spulber argued that the movement toward competition in local telephone service should be accompanied by substantial compensation to existing local telephone carriers, a view that Baumol and Merrill do not share. Rather, they note three points of disagreement between Sidak and Spulber and themselves. First, they maintain that Sidak and Spulber use an incorrect formula to determine whether the transition from regulated monopoly to competition requires compensation. Second, they argue that neither the Compensation Clause nor the regulatory contract requires compensation to take place ex ante. Finally, they do not believe that the magnitude of fixed and common costs will be significant in local telephony.

INTRODUCTION

In recent articles in this and another journal,[1] J. Gregory Sidak and Daniel F. Spulber have undertaken to damn us[2] with considerable praise. We accept the praise with gratitude, and acknowledge that

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1 See J. Gregory Sidak & Daniel F. Spulber, Givings, Takings, and the Fallacy of Forward-Looking Costs, 72 N.Y.U. L. Rev. 1068 (1997) [hereinafter Sidak & Spulber, Givings and Takings]; J. Gregory Sidak & Daniel F. Spulber, The Tragedy of the Telecommons: Government Pricing of Unbundled Network Elements Under the Telecommunications Act of 1996, 97 Colum. L. Rev. 1081 (1997) [hereinafter Sidak & Spulber, Tragedy of the Telecommons]. Their original article to which we addressed our critique is J. Gregory Sidak & Daniel F. Spulber, Deregulatory Takings and Breach of the Regulatory Contract, 71 N.Y.U. L. Rev. 851 (1996) [hereinafter Sidak & Spulber, Deregulatory Takings]. These articles have been collected with additional commentary in J. Gregory Sidak & Daniel F. Spulber, Deregulatory Takings and the Regulatory Contract (1997). Our critique appears in William J. Baumol & Thomas W. Merrill, Deregulatory Takings, Breach of the Regulatory Contract, and the Telecommunications Act of 1996, 72 N.Y.U. L. Rev. 1037 (1997).

2 In what follows, the term "us" or its counterpart "we" will be meant to encompass not only the two current authors, but also Professors Janusz Ordover and Robert Willig,

they have generally represented our analytic position accurately. But they have moved us no closer to acceptance of their conclusion that, before the nation moves to competition in local telephony, local telephone carriers must be afforded substantial compensation for anticipated lost profits. We nevertheless concur with their judgment that the discussion has served to clarify the issues, and our objective here is to contribute still further clarification.

I
WHAT IS THE ARGUMENT ABOUT?

The issue underlying our more general exchange on law and economic theory, in brief, is this. Local telephone companies in the United States (local exchange carriers, or LECs) are anxious to receive permission to enter long-distance service in competition with AT&T, MCI, Sprint, and the other current interexchange carriers (IXCs).[3] Today, however, virtually all long-distance calls, particularly those between households, use LEC-owned monopoly facilities (called "bottleneck facilities") in originating and receiving calls. This means that in order to deliver a long-distance call an IXC must almost always employ these bottleneck facilities, paying the local telephone companies for their use. The IXCs take the position that the prices they are charged for this use are excessive. If so, this will obviously distort competition in long-distance service when and if the local companies are permitted to enter the field, because they can use excessive charges for access to local facilities to handicap and even destroy their future long-distance rivals.

A second and analogous pricing issue which has arisen more recently will play a critical role in the future of telecommunications service in the United States. In the Telecommunications Act of 1996,[4] Congress decided to permit local carriers to enter into long-distance service.[5] But Congress also recognized that if such entry is to enhance competition rather than destroy it, the effective monopolies of the local companies must first be brought to an end. Congress therefore also permitted entry by the IXCs and other potential competitors into local service. Legal permission, however, is not enough. If new local

whose names are invoked, not quite in vain, along with ours throughout the Sidak-Spulber discussion.

[3] It should be clear to the reader that Sidak and Spulber are affiliated with the LECs while we are associated with the IXCs. However, the principles all of us have enunciated in this debate have been asserted by us elsewhere without the sponsorship of any firms.

[4] Pub. L. No. 104-104, 110 Stat. 56 (codified as amended in scattered sections of 47 U.S.C.).

[5] See 47 U.S.C.A. § 271 (West Supp. 1998).

competition is to succeed, it must be financially feasible. Indeed, because local exchange service requires enormous sunk investment, there has so far been little actual entry into local exchange markets.[6]

Fortunately, Congress recognized the high cost and risk confronting any entrant that undertakes to build the necessary facilities itself. It therefore authorized a second method of entry: The 1996 Act requires local telephone companies to offer space on their facilities to entrants at appropriate rental fees.[7] Entrants are permitted to select those portions of the LEC facilities that they need in order to provide competitive local service, without being made to pay for rental of facilities that they do not need.[8] Congress further specified that the rental price must not be excessive,[9] because too high an entry price is tantamount to outright refusal to provide the facilities.

The issue, then, is a matter of these two interconnection prices: the prices for completion of long-distance messages and the prices for rental of local telephone facilities. The local telephone companies say that the new Act threatens them with interconnection prices that will not enable them to recover their common costs and "stranded investments"—the investments that will become redundant because competition will cut into the business of the local telephone companies.[10] Such inadequate interconnection prices, they argue, therefore constitute an illegal taking in violation of the Fifth Amendment, or, alternatively, a breach of the regulatory contract that the LECs have justifiably relied upon in creating their local networks. Their opponents, the IXCs and other potential entrants into local telephone service, argue that the local companies are seeking freedom to exact prices that will undercut or destroy competition before competition is even able to materialize effectively.

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[6] See Leslie Cauley, Open and Closed: Genuine Competition in Local Phone Service Is a Long Distance Off, Wall St. J., Dec. 15, 1997, at A1 (discussing Telecommunications Act of 1996's disincentive effects on entry into local exchange markets).

[7] 47 U.S.C. § 251(c)(3)-(4) (West Supp. 1998). Sidak and Spulber are, at best, suspicious of this approach: "Before creating new forms of regulation of network industries, such as the unbundling requirements of the Telecommunications Act of 1996, regulators should compare the costs and benefits." Sidak & Spulber, Givings and Takings, supra note 1, at 1077. Those costs and benefits should, indeed, be considered. But one must not forget that if unbundling fails to materialize, and the LECs retain their monopoly power, one surely can expect really onerous reregulation to follow.

[8] See 47 U.S.C. § 251(c)(3)-(4) (West Supp. 1998).

[9] See id. § 252(d)(1)-(2) (West Supp. 1998).

[10] See, e.g., Comments of the United States Telephone Association, In Re Access Charge Reform, FCC Docket No. 96-262, at 68-76 (Jan. 29, 1997) (reflecting concerns of local telephone companies).

The efficient component pricing rule (ECPR) discussed at length by Sidak and Spulber[11] is a rule that one of us and his colleagues have devised and advocated to deal with such interconnection pricing problems.[12] In essence, ECPR says that the proper price for the rental of monopoly-owned facilities to competitors for use in the final product market is the incremental cost of the requested use of those facilities, plus compensation for any legitimate contribution toward recovery of fixed and common costs that become stranded as a result of provision of the facilities to competitors. We have shown that when interconnection prices are set in accordance with ECPR, the more efficient of the two competitors in the final product market—whether it be the facilities' owner or a rival—will obtain a competitive advantage exactly equal to the cost advantage it derives from its superior efficiency.[13]

II
Where We Agree and Why We Ultimately Disagree

We are now in a position to identify the extent to which we share common ground with Sidak and Spulber, and the extent to which we disagree. Once we have pinpointed the remaining areas of disagreement, we can attempt to identify the sources of that disagreement and respond to new arguments advanced by Sidak and Spulber in opposition to our position.

A. Interconnection Pricing Principles

In general, it appears that there is little difference between Sidak and Spulber and us over the principles that ought to govern the prices charged to competitors for access to local exchange facilities or the rental of unbundled network elements. We agree with Sidak and Spulber that all fixed and common costs of the LECs should be recovered in these prices, unless those costs entail wasteful expenditures or inefficient equipment and activities.[14] For their part, Sidak and Spulber appear to agree with us, at least in principle, that the opportunity cost component of the ECPR price should preserve none of the

11 See Sidak & Spulber, Tragedy of the Telecommons, supra note 1, at 1084-1103, 1111-46.

12 See, e.g., William J. Baumol et al., Parity Pricing and Its Critics: A Necessary Condition for Efficiency in the Provision of Bottleneck Services to Competitors, 14 Yale J. on Reg. 145, 145-63 (1997) (summarizing ECPR and responding to critics).

13 See id. at 151-53.

14 See Sidak & Spulber, Tragedy of the Telecommons, supra note 1, at 1147-48.

monopoly profit that the local telephone company may be earning before competition becomes effective.[15]

We also agree with Sidak and Spulber that any substantial[16] costs stranded by competition should be recoverable, normally through pricing mechanisms.[17] The prices used for these purposes should be carefully designed to ensure competitive neutrality, meaning that they must satisfy the parity principle of ECPR.

Finally, we agree that the appropriate price for access of long-distance messages to the local network or for the rental of network elements in general will not *equal* the bare incremental cost incurred by the local telephone company in supplying these services to others.[18] We would, however, insist that those prices be *based on* those incremental costs, meaning that they should be based on forward-looking calculations and on costs actually caused by the supply of those services.

We also agree with Sidak and Spulber that the discussion has produced considerable clarification of the pricing issues.[19] Here we cite in particular their unambiguous conclusion "that the incumbent's price for an unbundled network element [should be] capped by the entrant's stand-alone cost of supplying that input."[20] Imposing such a cap on interconnection prices will ensure that no monopoly profit is included in the prices. We also applaud their call to regulators to eliminate the tangle of cross-subsidies that characterize pricing of local services: "[R]egulators should rebalance the rates of the incumbent LECs to eliminate cross-subsidization."[21] This too is a necessary step that must be taken if interconnection prices based on ECPR are to produce efficient results.

There are a number of other points where we are not sure whether Sidak and Spulber are in agreement with us, although it is

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15 See id. at 1143.

16 The term "substantial" is used here to indicate that when such costs are trivial, as we believe they likely are in the local telephone market, see infra text accompanying notes 75-82, other competitively neutral means that are less difficult to administer may well be the preferable approach for their recovery.

17 See Sidak & Spulber, Tragedy of the Telecommons, supra note 1, at 1144-45.

18 See id. at 1147-48. Here we must protest that Sidak and Spulber inaccurately attribute to us the view that prices of unbundled network elements should be set equal to total service long run incremental costs. See id. at 1134, 1137. As far as we can determine, none of us has ever said that, even inadvertently.

19 See Sidak & Spulber, Givings and Takings, supra note 1, at 1070.

20 Id. at 1079.

21 Sidak & Spulber, Tragedy of the Telecommons, supra note 1, at 1144. A cross-subsidy is said to occur in a multiproduction firm if the prices of some of its products yield revenues insufficient to cover their pertinent costs but the prices of other products exceed their costs sufficiently to make up the deficiency.

conceivable that they would concur. First, although they acknowledge the need for a stand alone cost ceiling and elimination of cross-subsidies,[22] it is critical that these constraints be adopted either before or simultaneously with ECPR pricing if the latter is to contribute to economic efficiency and the general welfare. It has long been recognized in the economic literature[23] that introduction of only some but not all of the requirements of economic efficiency can easily make things worse, rather than better.[24] Failure to enforce a stand-alone cost ceiling along with adoption of ECPR for access pricing can obviously preserve monopoly profits in some or all of the incumbent's activities. And retention of cross-subsidies can continue to prevent entry into the subsidized activities by giving the incumbent a pricing advantage that no entrant can afford to replicate.[25]

Second, the common costs that we all agree should be recoverable by some ECPR supplement should include only common costs that are also *fixed*, and should exclude all variable common cost components.[26] This is because the latter automatically enter into any properly calculated incremental cost figure. To include them in any

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[22] See Sidak & Spulber, Givings and Takings, supra note 1, at 1079; Sidak & Spulber, Tragedy of the Telecommons, supra note 1, at 1145.

[23] The discussion refers to this concept as "the theory of the second best." See generally Richard Lipsey & Kevin Lancaster, The General Theory of Second Best, 24 Rev. of Econ. Stud. 11 (1956).

[24] Thus, while we acknowledge Sidak and Spulber's citation of our view that "distortion of access pricing *is the wrong instrument* for elimination of monopoly power or monopoly profits," Sidak & Spulber, Tragedy of the Telecommons, supra note 1, at 1143, we must emphasize that retention of monopoly power can undermine the promised efficiency contribution of ECPR, such that other (and appropriate) means must be used along with or before the adoption of efficient access pricing to eliminate such monopoly elements.

[25] It should also be kept in mind that where there is a cross-subsidy, meaning that some output is sold at a price below its incremental cost, there is a negative opportunity cost, i.e., a net gain to the seller from loss of some sales of that item. Followed to its logical conclusion, ECPR requires that the rental price of facilities to a competitor for use in supplying such a service should be below the direct incremental cost of those facilities' services, i.e., the rental price should equal the direct incremental cost plus the negative opportunity cost. Otherwise, as is easy to prove, the competitor will be discriminated against and will be unable to compete against even a less efficient incumbent.

[26] An example will clarify the difference between the role of fixed and variable common costs. Suppose that a rise in the demand of resellers leads the incumbent firm to purchase 50 more repair vehicles than it would have bought otherwise. Even though these 50 new trucks devote 10% of their time to serving the incumbent's customers rather than resellers, if simultaneously five older vehicles are transferred to reseller service, it is clear that the cost of 50 new trucks is exclusively the responsibility of reseller demand. Though the particular vehicles just purchased are a common facility, there is a net addition of 50 trucks serving resellers which would not have occurred if reseller demand had not grown. In contrast, the initial expenditure on a roadbed of a railroad is a cost that is fixed and common to all types of freight carried, and does not fall when there is a decline in the volume of coal carried, so that it constitutes no part of the incremental cost of coal or any other individual type of freight.

ECPR supplement above direct incremental cost would be double counting and would constitute overpayment to the owners of local facilities.

Third, it is not only forgone monopoly profit that should be excluded from the ECPR calculation. *Any* distortion in the final product price that yields excessive returns should be eliminated, whether those excessive returns are plowed back into cross-subsidies, used to cover waste and inefficiency, or devoted to any purposes other than supply and improvement of the final product in question. Otherwise the entire pricing arrangement will be distorted, and ECPR will only help to preserve the resulting inefficiencies.

Finally, it does not matter whether the final price distortions were deliberately introduced by the incumbent firm, imposed by regulation, or caused in some other way. What is at issue is not a reward for good intentions or a penalty for evil thoughts. An inefficiency caused by a price distortion is an inefficiency and is damaging to consumer welfare even if it is the result of the most laudable motivation. The obvious fact is that local telephone rates are a mass of distortions and, until something is done to eliminate those distortions, ECPR pricing of services provided to competitors will only compound the resulting mess.[27]

B. *Constitutional Compensation Principles*

When we turn from pricing issues to constitutional and regulatory contract principles, it is less clear where our agreement with Sidak and Spulber begins and ends. No doubt this is because there are no modern Supreme Court decisions concerning the compensation owed to an incumbent utility whose monopoly service area is opened to competition,[28] and so the applicable legal principles are a matter of considerable uncertainty. Nevertheless, at least at the most general level

[27] Already we are witnessing decisions by local regulators that purport to embrace ECPR but that are rendered bizarre by the Byzantine structure of consumer prices that the decisions allow to remain in place. See, e.g., In re AT&T Communications, No. 95-C-0657, 177 P.U.R. 4th 110, 110 (N.Y. P.S.C. Apr. 1, 1997) (setting permanent rate levels for sale by incumbent LEC of unbundled network elements to competing carriers).

[28] We agree with Sidak and Spulber that Market Street Railway Co. v. Railroad Comm'n, 324 U.S. 548 (1945), is not a directly applicable precedent. In that case, the Court assumed the competition was caused by exogenous changes in technology and consumer preferences, not deliberate governmental policy. See id. at 554, 567. Moreover, we are puzzled by their claim, see Sidak & Spulber, Givings and Takings, supra note 1, at 1071, that we asserted the opposite in our previous article. *Market Street Railway* was cited in only two footnotes in our article, see Baumol & Merrill, supra note 1, at 1043 n.19, 1049 n.46, and in neither instance for the proposition that a regulated firm "has no valid takings claim for the diminution in the value of its franchise due to deregulation," Sidak & Spulber, Givings and Takings, supra note 1, at 1071.

of analysis, we do not detect any truly fundamental disagreement here either.

In our previous article, we set forth our understanding of the constitutional and regulatory contract rights of regulated public utilities.[29] As we read the Supreme Court's most directly relevant takings decisions, *Duquesne Light Co. v. Barasch*[30] and *Federal Power Commission v. Hope Natural Gas Co.*,[31] regulated utilities are entitled to a risk-adjusted competitive return on their investment.[32] This means they are entitled to recover their reasonable costs plus a return on investment in regulated assets "'commensurate with returns on investments in other enterprises having corresponding risks.'"[33] The competitive return must be determined in light of the rate base selected by regulators and the consistency with which the regulators apply that rate base. Our analysis of the regulatory contract was slightly more complicated, but essentially we concluded that the only contractual promise by the government that has been established with the required clarity is the promise that utilities be given an opportunity to recover their reasonable costs and to earn a competitive return on their investment.[34] In other words, the Takings Clause and the regulatory contract converge to support the same entitlement: the right to a competitive return on investment.

As we read their two most recent articles, Sidak and Spulber do not contest this understanding of the law. Indeed, at one point they appear to embrace the same understanding, noting that "[u]tilities made past expenditures to perform obligations to serve in expectation

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29 See Baumol & Merrill, supra note 1, at 1041-51.

30 488 U.S. 299 (1989).

31 320 U.S. 591 (1944).

32 See Baumol & Merrill, supra note 1, at 1041-45.

33 *Duquesne*, 488 U.S. at 314 (quoting *Hope*, 320 U.S. at 603).

34 See Baumol & Merrill, supra note 1, at 1045-51. Sidak and Spulber devote considerable space to arguing that United States v. Winstar Corp., 518 U.S. 839 (1996), signals an important shift in the attitude of the Supreme Court toward enforcing regulatory contracts. See Sidak & Spulber, Givings and Takings, supra note 1, at 1147-52. This remains to be seen. Although the Court quite properly took a dim view of the government's blatant breach of its promise in the circumstances presented in *Winstar*, see *Winstar*, 518 U.S. at 870-73, the Court in recent years has shown a pronounced tendency to talk tough about property rights and then beat a hasty retreat when presented with complex regulatory schemes generating pools of winners and losers. See Richard J. Lazarus, Counting Votes and Discounting Holdings in the Supreme Court's Takings Cases, 38 Wm. & Mary L. Rev. 1099, 1131-40 (1997) (arguing that pragmatic concerns of Justice Kennedy are key to Court's takings jurisprudence); Joseph L. Sax, Property Rights in the U.S. Supreme Court: A Status Report, 7 UCLA J. Envtl. L. & Pol'y 139, 146 (1988) (reviewing recent takings decisions). In any event, we stand by the position taken in our earlier article that *Winstar* does not change the venerable "unmistakability" standard for identifying enforceable regulatory contracts. See Baumol & Merrill, supra note 1, at 1046.

of the reasonable opportunity to recover the costs of investment plus a competitive rate of return."[35] Moreover, at various points in their discussion, they acknowledge that no compensation is required for government action that eliminates monopoly or cartel pricing;[36] no compensation is required for losses caused by exogenous market forces;[37] and no compensation is required for losses that regulated utilities can foreseeably mitigate.[38] We agree with each of these qualifications.[39]

C. *Three Disagreements*

Wherein then lies the disagreement? As we see it, there are three significant areas where Sidak and Spulber diverge from us. In part these differences stem from disagreements about what the law requires at an intermediate level of generality; in part they stem from disagreements about the facts as they pertain to local telephony in the United States.

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[35] Sidak & Spulber, Givings and Takings, supra note 1, at 1076.

[36] See id. at 1104, 1106.

[37] See id. at 1089, 1110.

[38] See id. at 1138.

[39] Sidak and Spulber devote considerable space in their most recent article to what they describe as "the important but neglected" Supreme Court decision in Northern Pacific Railway Co. v. North Dakota, 236 U.S. 585 (1915). See Sidak & Spulber, Givings and Takings, supra note 1, at 1071, 1082-87. The decision's obscurity is, in fact, well deserved. First, the precise holding in *Northern Pacific Railway*—that a regulated utility earning constitutionally adequate revenues overall may not be required to offer particular services at noncompensatory rates, see *Northern Pac. Ry.*, 236 U.S. at 599-604—has been overruled. See Baltimore & Ohio R.R. Co. v. United States, 345 U.S. 146, 150 (1953) ("[S]o long as rates as a whole afford railroads just compensation for their over-all services to the public the Due Process Clause should not be construed as a bar to the fixing of noncompensatory rates for carrying some commodities when the public interest is thereby served."); see also Duquesne Light Co. v. Barasch, 488 U.S. 299, 312-13 (1989) (holding disallowance of return on portion of utility investment not unconstitutional, provided adequate return is afforded overall). Second, the statements in *Northern Pacific Railway* to the effect that a regulated carrier may not be required to dedicate its property for a purpose other than those "which inhere in the nature of the business," *Northern Pac. Ry.*, 236 U.S. at 595, are inconsistent with the modern understanding of the breadth of the "public use" requirement of the law of eminent domain. According to the modern understanding, the government may direct that property be rededicated to any rational purpose, as long as the government pays "just compensation." See Hawaii Hous. Auth. v. Midkiff, 467 U.S. 229, 241 (1984) (holding that exercise of eminent domain power must be "rationally related to a conceivable public purpose"); Berman v. Parker, 348 U.S. 26, 32 (1954) (stating that role of judiciary in determining whether eminent domain is being used for proper purpose is "extremely narrow"). See generally Thomas W. Merrill, The Economics of Public Use, 72 Cornell L. Rev. 61 (1986) (surveying uses to which power of eminent domain has been put). Since Sidak and Spulber do not argue that achieving competition in local telephony is not a rational purpose, the only issues are whether LECs are entitled to just compensation for a taking of their property and, if so, when such compensation must be paid. *Northern Pacific Railway* does not advance our understanding of either question.

The first area of disagreement concerns the formula they advocate for determining whether the transition from regulated monopoly to competition requires the payment of compensation to the incumbent utility. Essentially, their formula incorporates the historical profits of the incumbent as a fixed entitlement.[40] Our position, in contrast, is that the incumbent utility is entitled to compensation only to the extent that competition prevents it from recovering its *reasonable* costs and earning a *competitive* return on its investment. Such compensation may well diverge from recovery of the full historical level of profit.

The second area of disagreement concerns the timing of the compensation inquiry. Sidak and Spulber insist that the compensation inquiry take place ex ante, before local competition occurs.[41] This means that the regulator must calculate the present value of the expected profit under both regulation and competition, and provide for payment of the difference to the incumbent in the form of "a competitively neutral and nonbypassable end-user charge" or its equivalent.[42] Our position is that neither the Takings Clause nor the regulatory contract require the payment of compensation ex ante rather than ex post. Moreover, there are simply too many uncertain variables to allow regulators (or courts) to determine ex ante whether compensation is or is not required. Accordingly, we believe the compensation inquiry should be postponed until the Telecommunications Act is fully implemented.

The third area of disagreement concerns the probable magnitude of fixed and common costs that will be stranded by the Telecommunications Act. Sidak and Spulber cite filings by two local carriers claiming to show that these costs will be very large.[43] But these are hardly dispassionate calculations, and they have been disputed by the IXCs.[44] For a variety of reasons, including but not limited to the valuable quid pro quo the local carriers will receive in the form of access to the long-distance market, we continue to believe that the magnitude of stranded costs will not be significant in local telephony.

The next three Parts elaborate briefly on each of these three areas of disagreement.

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40 See Sidak & Spulber, Deregulatory Takings, supra note 1, at 919-20.

41 See Sidak & Spulber, Givings and Takings, supra note 1, at 1077.

42 Id. at 1079.

43 See Sidak & Spulber, Tragedy of the Telecommons, supra note 1, at 1138 (citing filings by GTE Florida and Ameritech).

44 See, e.g., In re Petitions by AT&T Communications of the Southern States et al., No. 960847-TP, 1996 WL 599779, at *13-*15 (Fla. P.S.C. Oct. 11, 1996) (setting forth position taken by AT&T and MCI).

III
THE FORMULA FOR COMPENSATION

Although Sidak and Spulber disclaim any reliance on historical costs in setting interconnection prices, they continue to insist on full recovery of an incumbent utility's historical profits through their formula for compensation.[45] Their clarified position is that ECPR determines "(1) the efficient price for the incumbent's sale of unbundled network access to competitors" but that, in addition, "takings jurisprudence and the law of contracts require the government to afford the incumbent the reasonable opportunity to recover its total economic costs—through an end-user charge or other means."[46] We have no disagreement in principle with dividing the total compensation to incumbents between competitively neutral interconnection prices charged to competitors and competitively neutral charges to end-users designed to assure full compensation for stranded investment costs. We do disagree, however, with the way Sidak and Spulber define "the total economic costs" that incumbents are entitled to recover through their proposed end-user charges.[47]

In their most recent articles, Sidak and Spulber speak occasionally as if the Constitution and the regulatory contract require that regulated utilities recover all the *revenues* they expected to earn under regulation.[48] By this they surely mean net revenues or profits, for recovery of expected gross revenues would lead to excessive compensation on any reckoning. For example, if competition leads to losses in market share for the incumbent, the foregone sales will result at least to some extent in lower variable costs. No one would advocate that incumbent utilities be compensated for costs that are entirely avoidable, such as foregone variable costs. Yet this is precisely what would be implied by a requirement that incumbent utilities preserve the full amount of gross revenues they earned under regulation.

In fact, the intended meaning of net revenues is spelled out clearly in their original article, where they explain their formula for compensation in terms of expectation damages, which they denote as Δ.[49] They state that:

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[45] See Sidak & Spulber, Givings and Takings, supra note 1, at 1078-79.

[46] Id. at 1080.

[47] See Sidak & Spulber, Deregulatory Takings, supra note 1, at 919-20.

[48] For example, in what purports to be a careful statement of the conditions that give rise to a requirement of compensation, they state: "Four conditions appear to be both necessary and sufficient to establish a deregulatory taking: (1) the existence of a regulatory contract; (2) evidence of investment-backed expectations; (3) the elimination of regulatory entry barriers; and (4) a decline in the regulated firm's expected revenues." Sidak & Spulber, Givings and Takings, supra note 1, at 1097.

[49] See Sidak & Spulber, Deregulatory Takings, supra note 1, at 923.

$$\Delta = (R_1^e - C_1^e) - (R_2^e - C_2^e)$$

where R_1^e and C_1^e are the expected revenues and expected costs under regulation, and R_2^e and C_2^e are the expected revenues and expected costs under competition.[50] The Sidak-Spulber formula for compensation thus requires that regulators determine the expected *net revenues* or profits under regulation and the expected *net revenues* or profits under competition. They then must subtract the expected profits under competition from the expected profits under regulation, and award the difference to the incumbent utility. The effect of this formula is to lock in the expected profits of the incumbent utility under regulation as a fixed entitlement.

The principal problem with this fixed entitlement is that Sidak and Spulber assume that the expected revenues and expected costs of the incumbent utility under regulation, R_1^e and C_1^e, are the expected historical revenues and costs of the incumbent utility. Thus, the formula takes no account of the possibility that the *historical* revenues and costs may deviate from the *reasonable* revenues and costs, i.e., those that would be sufficient to insure a competitive return on competitively valued investment. Historical costs, as we have emphasized, may include excessive returns, whether reflected in monopoly profits, cross-subsidies, or inefficiency and waste. Yet the Sidak-Spulber formula for compensation locks in these excessive returns, and requires that they be fully reflected in the competitively neutral end-user charges that the incumbent utility must receive to top off the ECPR-determined payments it obtains from competitors.

For reasons already explained,[51] we do not believe that either the Constitution or the regulatory contract requires that incumbent utilities be compensated for profits lost when the forces of competition squeeze excessive returns out of their systems. The Takings Clause and the regulatory contract require that utilities be afforded an opportunity to recover their reasonable costs plus a competitive return on investment; they do not guarantee preservation of preexisting levels of profit.

Moreover, providing a guarantee that incumbent utilities will recover the full measure of profit they earned under regulation—whether that recovery takes place through adjustments in prices charged to competitors, competitively neutral end-user fees, or direct compensation from the government—will necessarily interject inefficiencies into the system. There are at least two clear reasons for this. First and most obvious, such a guarantee is similar to a cost-plus con-

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50 See id.

51 See Baumol & Merrill, supra note 1, at 1042-51.

tract in that it removes all incentive for elimination of waste and inefficiency. If payments to the firm remain constant regardless of its pertinent performance, why should it devote any funds or effort to efficiency? Second, the magnitude of price clearly affects behavior, and an efficient price is defined as one that elicits behavior that most effectively promotes the public interest. Sidak and Spulber appear to favor adoption of such efficient prices—but with the addition of a supplement based on historic costs.[52] The resulting sum of these two prices can no longer constitute an efficient price and will result in what economists call "allocative inefficiencies," i.e., induced distortions of supplier and consumer behavior that are inconsistent with economic efficiency.

To bring their formula into line with the Constitution, the regulatory contract, and economic efficiency, Sidak and Spulber must at a minimum adjust their before-and-after measures of incumbent profits so that they reflect reasonable (i.e., efficient) rather than historical revenues and costs. To their credit, they recognize the need for such an adjustment with respect to future profits. Specifically, they recognize that the incumbent utility's expected net profit under competition, $R_2^e - C_2^e$, must be adjusted to take "into account the likelihood and magnitude of future mitigation."[53] In effect, they recognize that it is not appropriate to base compensation on whatever future revenues and costs turn out to be. If the incumbent utility is told in advance that it will be fully compensated for any shortfall in profits caused by competition, then it will have no incentive to try to maximize its future revenues or to minimize its future costs. No matter how small the profits under competition, $R_2^e - C_2^e$, they will be offset by larger compensation payments. To counteract this perverse incentive, Sidak and Spulber recognize that compensation payments must be reduced by some fixed amount in order to "preserve incentives for mitigation by the firm while sharing the gains from mitigation with consumers."[54]

The same general point applies backwards as well as forwards. Just as the compensation formula cannot accept at face value whatever future revenues and costs incumbent utilities generate, so too it should not accept at face value whatever past revenues and costs the incumbent utility has experienced. To do so locks in as an entitlement any and all excess returns embodied in historical revenues and costs.

[52] See Sidak & Spulber, Givings and Takings, supra note 1, at 1139-47.
[53] Id. at 1138.
[54] Id.

A simple example illustrates the point. Suppose 1000 units of service are consumed in a given industry. The industry is initially served by a regulated monopoly incumbent which has invested in fixed capital sufficient to supply all 1000 units. The incumbent files tariffs proposing to charge $10 per unit for the service, said to reflect $7 per unit in variable costs and $3 per unit in return on capital. No one protests the tariffs, and they take effect without any investigation by the regulators. Subsequently, the industry is deregulated. A new entrant appears who charges $7 per unit for the service, said to reflect $6 per unit in variable costs and $1 per unit in return on capital. The entrant has invested in fixed capital sufficient to supply 500 units of service. The entrant's competition forces the incumbent to lower its price from $10 to $7, and the incumbent loses half of its market share to the entrant. The incumbent then challenges this turn of events as a deregulatory taking.

What result does the Sidak-Spulber formula dictate in this example? The incumbent's net revenue under regulation, $R_1^e - C_1^e$, is $10,000 - $7,000, or $3,000. Its net revenue under competition, $R_2^e - C_2^e$, depends on what assumption we make about costs. Given Sidak and Spulber's recognition that mitigation is possible under competition,[55] let us assume that the incumbent succeeds in lowering its variable costs to $6 per unit, the same as the entrant's variable costs. Thus, net revenues or profits under competition are $3,500 - $3,000, or $500. The reduction in profit caused by competition is $3,000 - $500, or $2,500. Their formula therefore indicates that the movement from regulation to competition has caused a taking or breach of contract, and that the incumbent is entitled to compensation to the tune of $2,500.

Notice, however, that the incumbent's historical revenues ($10,000) and historical costs ($7,000) appear to be excessive. We know this because the entrant is able to offer service at lower unit prices, reflecting both lower variable costs and lower costs of capital. The incumbent's historical variable costs are $7 per unit while the entrant's are $6 per unit, and the incumbent's historical cost of capital is $3 per unit while the entrant's is $1 per unit. If we assume that the entrant's actual costs are an accurate measure of the incumbent's reasonable costs, then the adjusted revenues and costs of the incumbent under regulation would be $7,000 - $6,000, or $1,000. After adjustment, the Sidak-Spulber formula would suggest that the correct amount of compensation is $1,000 - $500, or $500.

[55] See Sidak & Spulber, Deregulatory Takings, supra note 1, at 921-22.

In this particular example, adjusting revenues and costs under regulation to reflect reasonable revenues and costs does not change the conclusion that there has been a taking. This seems to be the intuitively correct result, for the introduction of competition in the example gives rise to stranded capital equal to one-half the incumbent's fixed plant investment. Nevertheless, the adjustment has a dramatic impact on the level of compensation required, reducing it from $2,500 to $500. This again seems to be the intuitively correct result, for the introduction of competition has revealed that $2,000 of the $3,000 in profits being earned by the incumbent under regulation were based on overvalued costs of capital. Adjusting historical costs to reasonable costs and a competitive return on capital eliminates the requirement of paying compensation for lost profits that the incumbent never should have been allowed to earn in the first place.

A much more straightforward approach to determining whether compensation is required is simply to apply the constitutional standard after the transition to competition is complete. Specifically, one would ask whether the incumbent utility in the post-competition world is earning sufficient revenue to cover its reasonable costs and earn a competitive return on its investment. What constitutes a competitive return on investment would in turn be a function in part of risks to the utility associated with the particular rate base chosen by the relevant regulatory authority.

As applied to our hypothetical example, the revenues of the incumbent utility after competition are $3,500, and its reasonable costs, as revealed by the per unit costs incurred by the entrant, are $3,000. This yields $500 in contribution to capital costs. Let us assume, again based on the behavior of the entrant, that the competitive return on capital is $1 per unit. If the jurisdiction adopts a prudent original investment rate base, then the rate base would include capital sufficient to supply the entire market, or 1000 units, and a competitive return on this investment would be $1000. The $500 contribution to capital that the incumbent earns under competition is clearly insufficient, and compensation would be owed to make up the difference.[56] If the jurisdiction adopts a used and useful definition of the rate base, then the

[56] Although the Supreme Court has made it clear for constitutional purposes that regulators are free to adopt as a standard either a competitive return on historic investment or a competitive return on replacement cost, see Duquesne Light Co. v. Barasch, 488 U.S. 299, 315-16 (1989), competitive markets always value assets on the basis of replacement cost rather than historic cost. This means that if an asset has a historic cost of $2 million, but a replacement cost of half that amount, and the current competitive rate of return in the market is 10%, then the competitive return on the asset is $100,000 per year; that is, it is 5%, not 10%, of the historic cost.

rate base would include capital sufficient to supply only 500 units, and there would be no taking. However, if the jurisdiction switches from a prudent investment to a used and useful rate base simultaneously with the transition to competition, then a risk premium presumably would be required in the form of a higher per unit return on capital, and again it would appear that the deregulation has led to a taking.

As our illustration suggests, direct application of the constitutional standard can lead to the conclusion that compensation is warranted in circumstances where the introduction of competition leads to significant stranded costs, or substantially increases the riskiness of investment in utility property. (Of course, if competition does not lead to significant stranded costs or otherwise materially increase the risk of investment, the constitutional standard requires no compensation.) In addition, however, direct application of the constitutional standard avoids any suggestion that utilities are entitled to automatic recovery of historical revenues and costs, no matter how inflated they may be. We therefore believe that this is a better approach to determining whether compensation is required than the expectation damages formula favored by Sidak and Spulber.[57]

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[57] See Sidak & Spulber, Deregulatory Takings, supra note 1, at 919-20. We do not believe that direct application of the constitutional standard after the transition to competition suffers from the problems that Sidak and Spulber identify with respect to Judge Stephen Williams' suggested ex post prudency review. See generally Stephen F. Williams, Deregulatory Takings and Breach of the Regulatory Contract: A Comment, 71 N.Y.U. L. Rev. 1000 (1996) (responding to Sidak and Spulber). Our approach would not necessarily entail any regulatory second-guessing of the prudence of historical investment decisions, because the regulator could accept as conclusive any prior prudency determinations in defining the rate base for constitutional purposes. Alternatively, if the prudence of past decisions were explicitly or implicitly questioned (for example, by adopting a used and useful rate base), compensation for this additional risk could be provided through an additional risk premium.

In any event, frequently there will have been no regulatory assessment of the prudence of particular investments before existing rates were approved or allowed to take effect. Sidak and Spulber argue that there should be no retrospective regulatory review even in these circumstances, because the failure of major customers to seek review when the rates were established must mean that expected benefits of such review were insignificant "relative to the costs of [instituting a] rate proceeding." Sidak & Spulber, Givings and Takings, supra note 1, at 1138. This comment, however, overlooks the free rider barriers to collective action challenging utility rates. The aggregate benefits of regulatory review for customers might exceed the aggregate costs of such review, but customers still might be unable to agree on a formula for apportioning the regulatory costs among themselves, in which case no regulatory review would take place. When this happens, there is no reason to adopt a conclusive presumption that historical revenues and costs are reasonable, which is in effect what the Sidak and Spulber formula does.

IV
THE TIMING OF THE COMPENSATION INQUIRY

Perhaps the most sharply delineated disagreement that emerges from our exchange with Sidak and Spulber concerns the timing of the compensation inquiry. They believe compensation should be estimated and paid up front, before competition comes to local telephony.[58] We believe that the question of compensation can appropriately be postponed until the returns are in on the consequences of competition for local exchange carriers.

We have previously spelled out the legal basis for our conclusion that the Takings Clause and the law of contracts do not forbid takings of property or breaches of contract; they only require the payment of compensation once a taking or breach occurs.[59] Sidak and Spulber do not challenge that analysis. To the contrary, they concede that "the government's police power is distinct from its obligation to pay just compensation under the Takings Clause. Likewise, the law recognizes that the payment of damages for breach of contract is a permissible alternative to performing the contract."[60] Nevertheless, they insist that regulators should adopt pricing policies and end-user fees before competition commences that are sufficiently generous to "avoid the takings issue."[61]

The principal legal argument Sidak and Spulber advance in support of ex ante compensation is the canon of statutory interpretation that calls upon courts (and by extension agencies) to interpret statutes so as to avoid having to decide constitutional questions.[62] As authority, they cite Justice Brandeis's famous concurring opinion in *Ashwander v. Tennessee Valley Authority*,[63] urging the Court to adopt a general policy of avoiding constitutional rulings whenever possible.[64] In fact, however, the canon invoked by Sidak and Spulber is only one of seven prudential rules endorsed by Justice Brandeis for skirting unnecessary constitutional decisions.[65] Among the others is the rule that "[t]he Court will not 'anticipate a question of constitutional law in advance of the necessity of deciding it.'"[66] This prudential rule counseling against premature resolution of constitutional questions sup-

58 See Sidak & Spulber, Givings and Takings, supra note 1, at 1077.

59 See Baumol & Merrill, supra note 1, at 1051-52.

60 Sidak & Spulber, Givings and Takings, supra note 1, at 1078.

61 Id. at 1077.

62 See id.

63 297 U.S. 288, 341 (1936) (Brandeis, J., concurring).

64 See Sidak & Spulber, Givings and Takings, supra note 1, at 1077.

65 See *Ashwander*, 297 U.S. at 346-48 (Brandeis, J., concurring).

66 Id. at 346 (quoting Liverpool, N.Y. & Phila. S.S. Co. v. Emigration Comm'rs., 113 U.S. 33, 39 (1885)).

ports our position, since it is not clear at this point that there will be any unrecovered stranded costs. Obviously, if it turns out there are no stranded costs, the takings question potentially raised by the local competition provisions of the Telecommunications Act is avoided because such a question does not exist.

Since each of us can point to a cannon of avoidance in support of our respective positions, a more particularized inquiry is necessary to determine which maxim is most germane. In this regard, we would note that the canon favored by Sidak and Spulber is most often invoked where ambiguous statutes impinge on free speech and that it has the consequence of overprotecting constitutional norms.[67] This has been explained on the grounds of "the Court's long-standing opinion that free speech rights are fragile and need breathing room to survive; governmental actions that violate or even chill those rights are disfavored."[68] In contrast, this canon has been invoked relatively rarely in the context of takings claims.[69] On the other hand, the maxim we endorse—avoiding premature adjudication of constitutional claims—has an especially robust tradition in cases raising takings claims.[70] Thus, we believe that courts are more likely to find our prudential maxim germane than the one invoked by Sidak and Spulber.

We also believe that postponement of the compensation requirement simply makes more sense here. We have no doubt that "an ounce of prevention is worth a pound of cure."[71] But we are equally sure that a pound of prevention is not worth an ounce of cure. One problem with demanding generous compensation to avoid any takings question before competition even starts is the extremely high risk of error. There are simply too many variables and too much uncertainty about how individual variables should be resolved. We also believe that there is a high risk that an ex ante compensation inquiry would be unduly biased in favor of excessively generous compensation awards.

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67 See, e.g., Adrian Vermeule, Savings Constructions, 85 Geo. L.J. 1945, 1966-69 (1997) (reviewing rationale and applications for canon).

68 Id. at 1968.

69 The one example they cite, United States v. Security Industrial Bank, 459 U.S. 70 (1982), did not ultimately apply the canon of avoidance but rather the canon that favors interpretations preserving statutes from invalidation. See id. at 78-81. The Court in that case did not "avoid" the constitutional question; to the contrary, it devoted five pages to analysis of that question, and strongly intimated that the statute would violate the Takings Clause if interpreted to apply to pre-enactment property rights. See id. at 73-78. On the basis of this analysis, the Court then interpreted the statute to apply only to post-enactment rights. See id. at 81.

70 See Baumol & Merrill, supra note 1, at 1051-52 nn.54-56 (citing cases in support of this proposition).

71 Sidak & Spulber, Givings and Takings, supra note 1, at 1077.

With respect to the uncertainty of the variables, consider (as only one illustration of many difficulties) the implications of Sidak and Spulber's discussion about the significance of whether competition is the product of "endogenous regulatory change" or "exogenous changes in technology and market demand."[72] They say the former may give rise to an obligation to pay compensation, but the latter does not.[73] We are inclined to agree. They also say that sometimes competition may be the product of "joint causation," i.e., both endogenous and exogenous change, in which case "careful factual analysis will be necessary to attribute to each causal factor the correct portion of the incumbent's costs that that particular factor has rendered unrecoverable."[74] We see no reason to disagree with this statement either.

Consider, however, the implications of this analysis of joint causation for Sidak and Spulber's position that regulators should determine compensation ex ante. The economic forces unleashed by opening up any regulated monopoly to competitive access will almost always be partly a function of the legal change and partly a function of changes in technology and market forces. It is difficult enough to impose upon a regulatory agency the task of figuring out in advance what the total impact of competition is likely to be for an incumbent utility. But how is an agency (or a court) supposed to determine what percentage of this predicted impact will be attributable to legal change and what percentage to changing technology and market forces? The prospect that any agency composed of mere mortals will get this prediction right is remote indeed. Far better to survey the actual impact of the change on the incumbent utility after the transition to competition is complete, at which time it may be possible to draw some sensible conclusions about the relative impact of legal change and other forces that bear on the incumbent's economic fate.

Moreover, regulators may well prove to be biased in favor of overly large awards if asked to determine compensation ex ante. As emphasized in Part III, a critical variable in any compensation inquiry is the extent to which historical revenues and costs conceal excessive returns. Regulators who have been charged with overseeing and in some cases establishing historical utility rates may not be prone to judge their own efforts as having sanctioned monopoly pricing, padded expenses, or wasteful practices. Thus, they may well be inclined to view historical revenues and costs as fully justified, and regard any

[72] Id. at 1093.
[73] See id.
[74] Id.

predicted shortfall in profits as giving rise to a requirement of compensation.

If the compensation inquiry is postponed until competition is a reality, in contrast, regulators will be less able to ignore evidence of past monopoly pricing or inefficiency. If new entrants demonstrate that it is possible to operate more efficiently, then the incumbent will either have to adopt the more efficient practices itself or be at pains to explain why it has failed to do so. The entire rationale for replacing a system of regulation with a system of competition is the belief that competition is better than regulation at squeezing out waste and inefficiency. If this assumption proves to be correct, then regulators will have considerable difficulty endorsing the cost structure that existed under regulation as a fixed entitlement. If it turns out that the efficiency does not materialize, then of course the incumbent should be made whole for any recoverable stranded costs.

V
Stranded Costs in Local Telephony

The final area of significant disagreement concerns the magnitude of stranded costs that will be generated by the local competition provisions of the Telecommunications Act. Sidak and Spulber are right in saying that the main disagreement between us here is factual, the question being whether local telephone companies have substantial fixed and common costs that will be stranded by competition. We have not carried out any empirical studies of these matters. But Sidak and Spulber do not claim to have done so either. The issue therefore is which side offers the more plausible prediction about the future, based on what we know about the telephone industry, the prominent features of the Telecommunications Act, and the likely path of implementation of that Act by federal and state regulators.

We begin with a point that is often overlooked in discussions of stranded costs: These must be *fixed and common* costs. Fixed costs are not coterminous with sunk costs. A cost that is sunk is an expenditure that was made in the past that cannot quickly be recouped. Often costs that are variable and common will be sunk in this sense. This is true of any physical plant whose cost can be adjusted up or down before the commitment to incur it is taken, or can be adjusted up or down when it comes time to replace it, such as a decision to purchase a fleet of repair trucks.[75] Fixed costs, in contrast, are costs that cannot be adjusted up or down with the anticipated volume of future busi-

[75] See supra note 26 and accompanying text (providing examples of difference between fixed and variable common costs).

ness. For example, if a railroad is to deliver coal from mine X to electric utility plant Y, it must lay the rails between origin and destination, and the length of the roadbed cannot be reduced if the volume of coal carried undergoes a decline. Consequently, railroad operations are generally understood to entail huge fixed costs, which of course also happen to be sunk costs.

This is not just a quibble about terminology. The discussion has already shown that *variable* common costs do not require any price supplement above the incremental cost of a service.[76] By definition, long run incremental costs already include all costs, common or otherwise, that are variable. Thus, variable costs that are sunk will automatically be included in any proper calculation of interconnection prices based on incremental cost principles, and to provide additional recovery for these costs in the guise of stranded cost recovery would entail double counting.

On first consideration it is likely to seem that the fixed and common costs of telecommunications, like the fixed costs of railroads and electric utilities, must be enormous, and thus that Sidak and Spulber are right in arguing that the prices charged by the local companies to their competitors will have to be well above incremental costs in order to ensure financial viability. But this is not necessarily the case. While local telephone companies undoubtedly have very large sunk costs, a substantial portion of these costs are variable, because they can, in the long run, be adjusted up and down depending on the expected volume of future business. This is true, for example, of the technology and capacity of central office switching equipment, the capacity of trunk lines, and so forth. Of course, local telephone companies have *some* fixed costs, as any business does. But the portion of the sunk costs of local telephone companies that are fixed and common is undoubtedly much smaller than is true of railroads or electric utilities.

In any event, whatever the magnitude of fixed and common costs in the local telephone industry may be, we concur that regulation must not preclude their recovery. But the amount recovered must not be based on shabby reasoning, confusing sunk costs with fixed costs, variable costs with fixed costs, replacement costs with historic costs, or arbitrary allocations that simply inflate the pertinent magnitudes. The desirability of such careful accounting practices seems obvious enough, yet we have all too often seen them disregarded in practice.

What then can be said more specifically by way of predicting the amount of fixed and common costs in local telephony that are likely to

76 See supra note 26 and accompanying text.

be stranded by the introduction of competition under the provisions of the Telecommunications Act? In our previous article, we cited five reasons why the local telephone industry is not likely to present a significant stranded cost problem, at least relative to what may happen under full competition in electricity generation.[77] First, local telephone competition in the early years is likely to be based on entrants' rental of LEC facilities rather than the building of duplicate systems.[78] Facilities gainfully rented at compensatory prices cannot give rise to stranded costs. Second, technological change is far more rapid in telecommunications than in the supply of electric power, meaning that telecommunications plant and equipment rapidly become obsolete.[79] Plants that will be written off as obsolete and replaced cannot be regarded as stranded investments. Third, local telephone plants are very adaptable to multiple uses, suggesting that a loss in traditional local telephone business can be offset by growth in demand for alternative services.[80] Fourth, the prospect that local companies will be permitted to enter the long-distance market, in exchange for the inauguration of effective local competition, constitutes a clear quid pro quo for any loss of local service revenues resulting from local competitive entry.[81] Finally, the Telecommunications Act provides another offset to possible stranded costs by requiring the FCC to adopt competitively neutral universal service fees to cover the costs of incumbency burdens.[82] All of this adds up to the conclusion that stranded costs resulting from competitive local entry can be expected to be very modest and substantially precompensated.

Only one of these points has elicited any significant response from Sidak and Spulber—the fourth, concerning regulatory quid pro quos.[83] Here, as in other areas of the discussion, we find no disagreement at the level of general principle. The authors concede that "[i]n

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77 See Baumol & Merrill, supra note 1, at 1057-61.

78 See id. at 1058-59.

79 See id. at 1059.

80 See id. at 1059-60.

81 See id. at 1060-61.

82 See id. at 1061.

83 See Sidak & Spulber, Givings and Takings, supra note 1, at 1094-96. In fact, far from criticizing our five factors, Sidak and Spulber are generous enough to point out a sixth that we overlooked. They point out that as the regulator

> removes price controls, so that the incumbent firm has pricing flexibility to compete with new entrants, the regulator will enable the firm to mitigate its losses from deregulation and thus reduce its need for compensation for takings. Similarly, the lifting of regulatory obligations borne by the incumbent firm will reduce its costs after deregulation.

Id. at 1094-95. This enhanced ability to mitigate stranded costs is yet another reason why the existence and magnitude of stranded costs, if any, cannot be determined until the Act is fully implemented.

principle, if deregulatory givings are large enough in their value, the regulator will be able to eliminate the need for any explicit payment of compensation to the regulated firm."[84] Nevertheless, Sidak and Spulber advance two arguments seeking to cast doubt on whether the magnitude of the regulatory "givings" will be sufficient to offset or substantially reduce the regulatory taking they perceive as inevitably flowing from the advent of local competition.

First, Sidak and Spulber suggest that entry into the interLATA long-distance market[85] would provide sufficient revenues to offset the loss of profits in the local exchange market only if the LECs could earn supercompetitive profits in the interLATA market.[86] This they suggest is implausible, given that the interLATA long-distance market is already served by four companies and is perceived to be highly competitive.[87]

There are, however, several reasons besides supercompetitive pricing in the current interLATA market why the LECs might find the long-distance service attractive. One has already been mentioned:[88] Given the LECs' control over bottleneck facilities needed to complete long-distance calls, they may anticipate that regulators will allow them to charge interconnection prices to their competitors that will be sufficiently high to give them a competitive advantage. This will not happen, of course, if interconnection prices are based on a correct application of ECPR principles. But it will be more than ironic if LECs are awarded compensation ex ante on the assumption that ECPR pricing will lead to stranded costs, and then ECPR prices are modified in the implementation process or through judicial maneuvering, with the result that the LECs earn supercompetitive profits in the long-distance market.

More benign explanations for the LECs' yearning to enter long-distance are also available. Given the huge investments they have already made in telecommunications plant and infrastructure, the LECs may believe that they can exploit economies of scope and scale in offering long-distance service. Thus, they may believe that they can operate at lower costs than existing long-distance carriers, which would translate into higher profits (at least until this advantage is eliminated

[84] Id. at 1095.

[85] The LATAs (Local Access Transport Areas) are the geographic areas into which the United States was divided for regulatory purposes when AT&T agreed to divest itself of the LECs. InterLATA long-distance service includes a large portion of interstate telecommunications activity.

[86] See Sidak & Spulber, Tragedy of the Telecommons, supra note 1, at 1090.

[87] See id.

[88] See supra Part I.

through additional competitive entry). Alternatively, or in addition, the LECs may believe that they have inherent marketing advantages in offering "one-stop" telecommunications shopping (combining local, long-distance, Internet, cellular, and video services in various integrated packages) because they may be perceived by many customers as the most logical single source. In any event, exactly why the LECs think they can obtain additional profits from entry into long-distance service is less important, for present purposes, than the fact they plainly do harbor such a belief, as their tireless efforts to obtain permission to enter this market demonstrate.

Second, Sidak and Spulber suggest that access to the interLATA market cannot count as a regulatory "giving" because the Telecommunications Act may have made it more rather than less difficult for the LECs to gain access to this market.[89] They argue that regulators cannot erect new regulatory barriers and then obtain credit for eliminating these barriers as an offset against the compensation required for other actions that constitute a taking.[90]

However, the characterization of the Telecommunications Act as a "new" regulatory barrier is questionable at best. The LECs were vigorous proponents of the Act, precisely because they saw it as accelerating the end of the regulatory "quarantine" erected by the Modified Final Judgment entered in *United States v. AT&T*.[91] The fact that their entry into the long-distance market has come about more slowly than they might otherwise prefer is largely attributable to their own litigation strategy. The Act requires that competition be established in the local exchange markets before local carriers can enter the long-distance market. And a principal reason why competition has not been established in the local exchange market is the LECs' vigorous opposition to pricing formulas and other measures that would open up the local exchange markets to competition. Indeed, one could turn the Sidak-Spulber point on its head: Just as regulators should not get credit for eliminating new barriers of their own creation, so too LECs should not be able to complain of new barriers of their own creation.

Our basic point with respect to quid pro quos—as also in regard to the other factors we enumerated in our previous article[92]—is simply that there are too many factual variables that remain unresolved before we can say that the local competition provisions of the Telecommunications Act have created a substantial stranded plant prob-

89 See Sidak & Spulber, Givings and Takings, supra note 1, at 1095.

90 See id. at 1095-96.

91 552 F. Supp. 131 (D.D.C. 1982) (upholding antitrust consent decree ordering divestiture by telecommunications corporation of local operating companies).

92 See Baumol & Merrill, supra note 1, at 1060-61.

lem. Sidak and Spulber concede the need for "an empirical valuation of the givings that the government claims as offsets to the incumbent firm's taking."[93] When we combine the need for this empirical study with the factual investigations suggested by our other four factors, we think that the only verdict that is possible at this time on stranded costs is "not proven."

VI
Is There a "Fallacy of Forward-Looking Costs"?

Finally, we must take note of Sidak and Spulber's claim that there is a "fallacy of forward-looking costs."[94] Their argument here is that the FCC's (partial) requirement that the pertinent costs of plant and equipment are those of an efficient entrant using the most economical current technology, rather than the older technology actually employed by the LECs, constitutes a distortion of the forward-looking cost concept.[95] In rebuttal, they compare the FCC's approach to that of a buyer who breaches a fixed price contract when a cheaper alternative becomes available.[96] Excusing the breach ignores the fact that the contract price was set to provide recovery of transaction-specific investments. In lieu of the FCC's standard, they propose what they describe as a competitive market standard for the adaptation of prices to the lower costs of new techniques.[97] Essentially, they assert that in a competitive market, prices will not fall in response to the availability of lower-cost equipment until enough such equipment has been introduced to serve all market demand.[98]

The first strand of their argument, the notion that investors did not expect the value of their assets to be reduced by competition from newer and less costly equipment,[99] seems to us to have little substance. As we discussed in our previous article, the expectation protected by the regulatory contract is that the government will afford investors an opportunity to earn a competitive return on their investment.[100] We doubt very much that investors can show they were promised at the time of investment that technical change would not be allowed to undercut the market value of the pertinent assets.

93 Sidak & Spulber, Givings and Takings, supra note 1, at 1095.
94 Id. at 1139-46.
95 See id. at 1140-41 (citing and discussing FCC regulations).
96 See id. at 1143-45.
97 See id. at 1139-40.
98 See id. at 1142-43.
99 See id. at 1145 (explaining that rejection of embedded cost standard is therefore breach of regulatory contract).
100 See Baumol & Merrill, supra note 1, at 1066.

More relevant is the Sidak-Spulber observation that in a competitive market the availability of a small amount of less-costly improved equipment does not immediately lead to an equivalent reduction in the affected prices.[101] This is generally true. However, it is not true that the old price will normally prevail until enough of the new equipment is available to meet all market demand. In an effectively competitive market, *if it is possible* for the new equipment to be made available in the desired quantity in, say, two years, the price reduction cannot be delayed more than two years, whether or not the newer assets are actually adopted. This is true *even if none of the new equipment is actually introduced*, particularly where sales are carried out by contract and predominantly to business customers. These customers, knowing that they can make lower-price contracts with potential entrants effective two years hence, can use the threat of doing so to force incumbents to offer equally reduced prices, whether or not those incumbents actually replace their old assets. Unless an incumbent quickly commits itself to lower prices effective no later than two years (in our example) from the introduction of the improved technology, entrants will rapidly contract with the incumbent's customers to become their future suppliers at the lower prices the new technology makes possible. Knowing that they face this threat of potential competition, even incumbents with outdated high-cost equipment will be forced to adjust their prices to efficient costs.

Sidak and Spulber do have a valid point when they note that some delay may occur in the reduction of asset values and product price in response to the introduction of more efficient technology.[102] However, that delay is generally very limited, and the competitive market standard cited by Sidak and Spulber[103] certainly does not justify indefinite postponement of the efficient cost standard for pricing. We conclude that, perhaps with some minor readjustment, the FCC's proposed standard—and indeed, one that is based even more exclusively on efficient costs—is entirely consistent with the competitive market model and with the forward-looking cost criterion for public interest pricing.

VII
Concluding Comment

The considerable overlap between the analytical positions taken by Sidak and Spulber and us may conceal more than it reveals. Per-

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101 See Sidak & Spulber, Givings and Takings, supra note 1, at 1142-43.

102 See id.

103 See id. at 1139.

haps most important, by concentrating on the role of ECPR and the importance of competitive neutrality in setting interconnection prices, Sidak and Spulber have diverted attention away from their compensation formula, which establishes an entitlement of full recovery of all historical revenues and costs. This formula is a more generous measure of compensation than that required by the Constitution or the regulatory contract, and certainly has no grounding in economics. Their position on compensation stands forward-looking costing on its head. Similarly, by treating the question of the timing of the compensation inquiry as a matter of regulatory prudence in avoiding constitutional questions, Sidak and Spulber have shifted attention away from the extremely serious practical problems associated with ex ante compensation, not to mention the considerable likelihood that it would lead to excessive recoveries.

Moreover, the large degree of agreement on the principles for establishing interconnection prices tends to hide from view the extensive distortions in the prices of local telephone services that undermine the efficiency properties of ECPR pricing. These distortions are generally the product of agreements between local regulators and local telephone companies. It is noteworthy that the latter have in many states fought tooth and nail to preserve these distortions, battling to stave off attempts by potential competitors to correct them.

Our agreement on the theory of the matter also invites confusion between the substantial sunk costs and the much more modest fixed costs of the local telephone companies. A legitimate ECPR covers the latter by a pricing supplement above incremental cost, but does not provide a supplement for the former, because those costs are already included as a variable magnitude in the long run incremental cost of any service.

Finally, the degree of agreement on theory draws attention away from our very substantial difference in evaluation of the facts, for what evidence we have seen indicates that the stranded costs are likely to be quite modest. We continue to believe that interconnection prices should be based on the incremental costs entailed in providing services to competitors with some minor adaptation for fixed and common costs, or some alternative and competitively neutral form of compensation (such as a universal service fund) to cover all remaining legitimate costs at issue.