

GIVINGS, TAKINGS, AND THE FALLACY OF FORWARD-LOOKING COSTS

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Mr. Sidak and Professor Spulber extend here the analysis in Deregulatory Takings and Breach of the Regulatory Contract, published last year in this Review. They respond to comments and criticisms raised not only by Professors Baumol and Merrill, but also by Judge Williams and Professor Williamson in their Comments published last year. Sidak and Spulber begin by exploring the constitutional limitations on the government's ability to redefine the public purpose to which a regulated utility has dedicated its private property. Then, the authors examine whether the government has made "givings" that implicitly compensate the regulated firm for its diminution in value owing to the imposition of policies mandating network unbundling at regulated prices. Sidak and Spulber refine the limiting principles for the recovery of stranded costs that they articulated in their earlier article and show how those principles reconcile with the actual treatment of losses from deregulation in disparate industries. Next, they expose the economic fallacies in the notion of "forward-looking costs" as that term has been used by the Federal Communications Commission and state public utility commissions to set prices for mandatory network access under the Telecommunications Act of 1996. The authors analyze the Supreme Court's 1996 decision in United States v. Winstar Corp. and argue that the reasoning employed by seven Justices in that case comports not only with earlier decisions of the Court construing the regulatory contract with public utilities, but also with the contemporary economic analysis of why the regulatory contract is essential and efficient. Sidak and Spulber explain how "transition bonds" may solve the stranded cost conundrum in the telecommunications and electric power industries by permitting the securitization of stranded costs in a manner that restores investors' faith in the state's ability to make credible commitments. Finally, the authors examine the significance of the Eighth Circuit's 1997 decision in Iowa Utilities Board v. FCC for the debate over deregulatory takings and breach of the regulatory contract.

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INTRODUCTION

A number of eminent economists and lawyers have responded to *Deregulatory Takings and Breach of the Regulatory Contract*, published last year in this *Review*.¹ That commentary has helped to bring into sharper focus the legal and economic issues that the competitive restructuring of network industries presents. We are doubly grateful to those scholars. First, they have identified places in our original arguments that would benefit from clarification and elaboration. That is also the first objective of this Article, and we therefore respond here to comments and criticisms raised not only by Professors William J. Baumol and Thomas W. Merrill,² but also by Judge Stephen F. Williams³ and Professor Oliver E. Williamson.⁴

Second and more important, however, those scholars have enabled us to recognize additional economic and constitutional issues that demand close analysis because of their immediate relevance to looming public policy decisions of the highest order in the regulated industries. The articulation of those further insights is the second objective of this Article, and they form an integral part of our forthcoming book.⁵

In Part I of this Article, we restate our basic arguments and then clarify Baumol and Merrill's restatement of those arguments. By so doing, we better identify our points of agreement and disagreement.

¹ J. Gregory Sidak & Daniel F. Spulber, *Deregulatory Takings and Breach of the Regulatory Contract*, 71 N.Y.U. L. Rev. 851 (1996) [hereinafter *Deregulatory Takings*].

² See 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).

³ See Stephen F. Williams, *Deregulatory Takings and Breach of the Regulatory Contract: A Comment*, 71 N.Y.U. L. Rev. 1000 (1996).

⁴ See Oliver E. Williamson, *Deregulatory Takings and Breach of the Regulatory Contract: Some Precautions*, 71 N.Y.U. L. Rev. 1007 (1996).

⁵ J. Gregory Sidak & Daniel F. Spulber, *Deregulatory Takings and the Regulatory Contract: The Competitive Transformation of Network Industries in the United States* (forthcoming 1997) [hereinafter *Deregulatory Takings and the Regulatory Contract*].

We have recently discussed at length in the *Columbia Law Review*⁶ some of the more technical aspects of our approach to pricing unbundled network elements (such as loops, ports, and switches) under the Telecommunications Act of 1996.⁷ Some of that discussion is highly pertinent to answering the comments of Baumol and Merrill, but in the interest of brevity we do not repeat it here.

In Part II, we explore the constitutional limitations on the government's ability to redefine the public purpose to which a regulated utility has dedicated its private property. We analyze the important but neglected 1915 decision of the Supreme Court in *Northern Pacific Railway Co. v. North Dakota*.⁸ The decision has great relevance to the contemporary debate over mandatory unbundling of network access in local telephony, for the decision emphasizes that private property that a regulated utility has dedicated to a public purpose cannot be appropriated by the government for a different purpose. Next, we respond to the argument, made by Baumol and Merrill and now commonly encountered in unbundling proceedings, that the Court's 1945 decision in *Market Street Railway Co. v. Railroad Commission of California*⁹ resolved that a regulated firm, such as an incumbent local exchange carrier (LEC), has no valid takings claim for the diminution in the value of its franchise due to deregulation.¹⁰ We show why that reading of the case is incorrect on both legal and economic grounds. *Market Street Railway* does not excuse the government from the obligation to pay the incumbent utility just compensation for losses in value owing to the regulator's own endogenous changes in regulatory policy.

In Part III, we examine whether the government has made "givings" that implicitly compensate the regulated firm for its diminution in value owing to the imposition of policies mandating network unbundling at regulated prices. In particular, Baumol and Merrill argue that the Telecommunications Act of 1996 gave the regional Bell operating companies (RBOCs) the opportunity to enter the market for long-distance calls that cross from one local access and transport area (LATA) to another. The opportunity to enter the interLATA market was, in the view of Baumol and Merrill, the quid pro quo for the

⁶ See 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 *The Tragedy of the Telecommons*].

⁷ Pub. L. No. 104-104, 110 Stat. 56 (to be codified in scattered sections of 15, 18, 47 U.S.C.).

⁸ 236 U.S. 585 (1915).

⁹ 324 U.S. 548 (1945).

¹⁰ See Baumol & Merrill, *supra* note 2, at 1049-50.

mandatory unbundling of the local exchange that the Federal Communications Commission (FCC) and state public utility commissions (PUCs) imposed at regulated prices, prices that the RBOCs (and other incumbent LECs) immediately asserted were confiscatory.¹¹ For several reasons, we do not agree that such a bargain, if it occurred, produced for an RBOC a giving that was large enough to offset the taking that those regulated access prices will effect.

In Part IV, we refine the limiting principles for the recovery of stranded costs that we articulated in our earlier article.¹² We distinguish compensable cases of stranded costs from cases where firms have received mere statutory gratuities or have benefited from state-managed cartels. We show how our limiting principles reconcile with the actual treatment of losses suffered by incumbent firms in disparate network industries, including private municipal railways, airlines, railroads, the former Bell System, transportation of natural gas, and wholesale wheeling of electricity. We also show how our principles square with a 1996 advisory opinion of the United States Court of Federal Claims concerning the liability of the federal government for the unrecovered capital costs of cable television franchisees serving military bases that the government subsequently decided to close following the end of the Cold War.¹³ That advisory opinion could pre-empt how courts will approach contract-based arguments for recovery of stranded costs in the telecommunications and electric power industries. Next, we consider Judge Williams's argument, made in response to our earlier article, that the incumbent utility should be able to recover stranded costs only after the regulator has completed an *ex post* review of the prudence of the investment that mandatory unbundling of the network has rendered unrecoverable.¹⁴ We explain why we continue to believe that such *ex post* prudence reviews would be unnecessary and undesirable.

In Part V, we expose the economic fallacies in the notion of "forward-looking costs" that the FCC and state PUCs have used to set prices for mandatory network access under the Telecommunications Act of 1996. Although no one can quarrel with the simple proposition that all costs are inherently forward-looking, as Baumol and Merrill

¹¹ See *Iowa Utils. Bd. v. FCC*, 109 F.3d 418, 424-25 (8th Cir. 1996) (concluding that FCC had no express grant of authority over pricing).

¹² See *Deregulatory Takings*, *supra* note 1, at 995-98.

¹³ See *In re Department of Defense Cable Television Franchise Agreements*, 36 Fed. Cl. 171, 176-79 (1996) (finding that cable operators' franchise agreements entitled them to reimbursement of unamortized portion of their investments).

¹⁴ See *Williams*, *supra* note 3, at 1001-05.

rightly observe,¹⁵ we argue that the FCC has fallen prey to several fallacies that make its version of pricing on the basis of forward-looking costs a tautology. We do not understand Baumol and Merrill, or other scholars of their stature, to endorse those fallacies of economic reasoning.

In Part VI, we analyze the Supreme Court's 1996 decision in *United States v. Winstar Corp.*¹⁶ We argue that the reasoning employed by seven Justices in that case comports not only with earlier decisions of the Court construing the regulatory contract with public utilities, but also with the contemporary economic analysis of the origin and function of the regulatory contract.

In Part VII, we speculate that "transition bonds" may be an important breakthrough in solving the stranded cost conundrum in the telecommunications industry. Such bonds permit the securitization of stranded costs in a manner that could restore investors' faith in the state's ability to make credible commitments when it transacts with private firms that must make nonsalvageable investments to serve the public. Pursuant to state legislation enacted in 1996, the Pennsylvania PUC began proceedings in 1997 to authorize a large electric utility in that state to issue transition bonds.¹⁷ If successful in the electric power industry, such bonds may provide the blueprint for the FCC and the state PUCs to resolve the cost recovery issues that the Telecommunications Act of 1996 has presented for regulators and incumbent LECs.

Finally, in Part VIII, we examine the significance of the Eighth Circuit's 1997 decision in *Iowa Utilities Board v. FCC*¹⁸ for the debate over deregulatory takings and breach of the regulatory contract.

I

CLARIFYING THE RESTATEMENT OF OUR ARGUMENTS

Before examining at length particular issues that Professors Baumol and Merrill raise in response to our earlier article, we would like to clarify their restatement of our arguments. The principal benefit of our doing so is to identify points of agreement and to narrow for further examination the points on which they and we do not agree.

¹⁵ See Baumol & Merrill, *supra* note 2, at 1062-63.

¹⁶ 116 S. Ct. 2432 (1996).

¹⁷ See Pennsylvania's Electricity Generation Customer Choice and Competition Act of 1996, 66 Pa. Cons. Stat. Ann. §§ 2801-2812 (West Supp. 1997).

¹⁸ 120 F.3d 753 (8th Cir. 1997).

A. *Four Epigrams for Protecting Private Property
in Network Industries*

Our analysis of deregulatory takings and the regulatory contract is neither an apologia for regulation nor a defense of monopoly. To the contrary, our overriding concern is the protection of private property as the foundation of a competitive economy. Our analysis of deregulatory takings in the light of the constitutional defense of property rights is meant as a criticism of regulators who seek to use their authority to effect taxes and income transfers "off the books." We strongly favor moving from a regulated regime to a competitive market in the network industries as quickly as possible. That transition, however, means loosening regulatory controls not only on entry, but also on the incumbent utilities. The need to compensate the incumbent utility for past, present, or future regulatory obligations does not mean that competition should be delayed. Rather, it means that regulators should recognize the full economic costs of the services that are procured through regulatory fiat and the consequences of income transfers obtained through distorted rate structures. If the economic costs of regulation are explicitly recognized, rather than being obscured in a manner that facilitates income transfers to the investors of entrant firms and to some fortunate subset of the customers of incumbent utilities, then there will be greater political scrutiny of regulatory decisions, and policy makers will redesign or remove regulations accordingly.

Defending property rights does not entail an endorsement of monopoly. The rights to returns on investment for any type of firm sustain competition and eliminate monopoly power. Certainly, monopoly rents can represent an inefficient transfer from consumers to the monopoly firm resulting in a loss of consumer surplus under some pricing policies. It is the earnings of incumbent monopolies, however, that provide incentives for competitors to enter markets, to invest in productive capacity, to innovate, to market products, and to offer lower prices and higher quality to consumers. Moreover, a regulated monopoly is not the same thing as the textbook monopolist. Regulated utilities, while benefiting from entry controls, are subject to price controls and limits on the rate of return, and they must meet regulatory obligations such as universal service and quality standards. It is false and misleading to equate a regulated monopoly with the textbook monopolist because the firm's pricing and supply decisions are completely different in the two cases. Whereas the textbook monopolist restricts supply to drive up the price, the regulated monopoly

is held to cost-based pricing to drive prices as low as possible to increase demand so as to achieve universal service.

Clearing the books by offering just compensation to utility investors for their expected earnings would hasten the move to competitive markets. Attempts to confiscate the incumbent utility's property will delay the move to competition because such takings will surely be challenged in court and are likely to be found unconstitutional. If the regulator renegotiates the regulatory contract, then the transition to competition can be accelerated, the opposition of incumbents can be eliminated, and the incumbent firm can join the competitive fray on an even footing. Removing incumbent burdens, such as price controls and asymmetric service obligations, allows market incentives to operate so that competition can flourish. Compensation for yesterday's investment does not insulate today's incumbent monopolist from the hazards of tomorrow's competitive marketplace. The decision to permit the incumbent utility the reasonable opportunity to recover the full economic cost of investments made to render service to the public was a decision made long ago, when the system of regulated utilities was instituted. Paying for the incumbent's stranded costs—that is, its expected earnings under regulation net of expected earnings under competition—addresses the problem of unamortized investment. Only a *continuation* of regulation would create de facto protections for incumbents. Going forward, after the resolution of outstanding regulatory obligations, the incumbent then confronts the same vagaries of the marketplace as do entrants.

The cost of compensation for takings need not prevent or delay deregulation. The economic benefits of competition provide a source of funds for compensating investors who relied on the regulatory contract. Cost efficiencies and innovative technologies brought by entrants lower industry costs. There is room for competitively neutral end-user charges to recover stranded costs while still allowing lower prices. That effect is similar to paying expectation damages for breach of contract. The returns to *efficient* breach cover the damage payment, yielding all of the efficiency gains as surplus. The faster regulators relax incumbent burdens, the greater the mitigation of damages that would otherwise arise from continuing regulatory asymmetry. The mere fact that companies can enter new lines of business, however, is not a sufficient quid pro quo for deregulation, for competitive firms *already* have the right to enter new markets. It is, instead, the relaxation of government-mandated cross-subsidies and other regulatory restrictions that minimizes the cost of compensating incumbents for the regulator's abrogation of the regulatory contract.

Thus, the “greater good” of competition does not necessitate a deregulatory taking, because paying compensation and moving to competition are compatible. Moreover, the inefficiencies of regulation do not provide a basis for refusing to compensate incumbents. The inefficiencies of regulation are manifest, including the transaction costs of regulatory hearings and regulatory accounting. The distortions in incentives created by rate-of-return regulation of capital intensive firms are generally understood. Moreover, the capital equipment of regulated firms cannot reasonably be expected to be free of technological obsolescence or to be immune from the possible superior performance of new entrants. Those inefficiencies are beside the point, however. Deregulation requires the state to compensate for past contractual obligations made to private investors and to think carefully before creating new ones.

Our analysis can be summarized in four familiar epigrams. First, “a deal is a deal.” The government entered into a regulatory contract with utilities in the network industries consisting of entry controls, rate regulation, and obligations to serve. The contract can be renegotiated bilaterally to prepare the ground for competition, but the voluntary exchange inherent in such renegotiation will require compensating utility investors for the loss of their investment-backed expectations.

Second, “there is no such thing as a free lunch.” Someone must pay the costs of publicly mandated services. The facilities of the regulated network industries did not fall like manna from heaven, but rather were established by incumbent utilities through the expenditures of their investors. Utilities made past expenditures to perform obligations to serve in expectation of the reasonable opportunity to recover the costs of investment plus a competitive rate of return. Investors must be compensated for those past costs; it follows a fortiori that investors must be offered additional compensation if existing responsibilities are perpetuated or new burdens are imposed. Reed Hundt, chairman of the Federal Communications Commission, revealed his lack of understanding of that principle when he declared at the end of 1996 that opening the local exchange should not be called a free lunch: “The rate payers paid for this network. . . . My argument is that it’s been a nice lunch for the entire country.”¹⁹

Contrary to that reasoning, the benefits of deregulation are the result of free markets, not the expropriation of investor wealth. A

¹⁹ Mark Landler, *The Bells Want F.C.C. to Make Providers Share Internet Costs*, N.Y. Times, Nov. 25, 1996, at D1 (quoting Reed E. Hundt, Chairman, Federal Communications Commission).

telephone customer has acquired no ownership in the local exchange network by virtue of having paid regulated rates for service from an investor-owned LEC, just as he could not expect to have acquired any ownership interest in Texaco by virtue of having purchased gasoline from that company over a period of years. Chairman Hundt's comment fundamentally misapprehends the legal and economic significance, traceable to *Munn v. Illinois*²⁰ and to earlier English common law, of dedicating *private* property to a public purpose. In addition, his remarks show that he does not recognize that investment in a network industry does not happen only once.

Third, "an ounce of prevention is worth a pound of cure." If regulators adopt the correct pricing policies for mandatory access to network facilities and accompany such pricing rules with competitively neutral and nonbypassable end-user charges, then they will avoid the takings issue. This advice is consistent with the prudential rule, commonly attributed to Justice Brandeis's famous 1936 concurrence in *Ashwander v. Tennessee Valley Authority*,²¹ that courts (and a fortiori regulatory agencies, we would add) should read statutes to avoid having to decide constitutional questions. The deregulation of network industries in the United States should not have come to this. Regulators should have taken care to read statutes, such as the local competition provisions of the Telecommunications Act of 1996, in a way that would have obviated litigation over takings questions that have arisen as a result of the FCC's actions. In short, this third epigram is necessary advice to dispense because the FCC and many state PUCs have ignored the constitutional precedent concerning regulated industries that makes clear that investors in public utilities are entitled to the reasonable opportunity to recover their investment and a competitive return.

Fourth, regulators should heed the advice, "look before you leap." 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. It does little good to protest the high cost of deregulation or the inefficiencies of regulation *after the fact*. Optimization is achieved as the result of decisions made *before* networks are created and costs are sunk. After costs are sunk, protections against regulatory opportunism and deregulatory takings come into play so as to preserve *future incentives* for private parties to invest in network infrastructure and to enter into efficient agreements with regulatory agencies.

²⁰ 94 U.S. 113 (1876).

²¹ 297 U.S. 288, 347 (1936) (Brandeis, J., concurring).

What does it mean to protect private ownership of the telecommunications network? Ownership of an economic asset has two aspects: rights to residual returns and rights of residual control.²² Residual returns refer to the returns from an asset after all prior claimants have been paid; thus, equity holders in a corporation obtain the returns after debt holders and other creditors have been paid. Residual control refers to the control of the asset for the purposes of the owners, subject to legal and other prior (contractual) restrictions. Protection of private property from government takings means protection of investors' residual returns, as well as protection of their residual control in the absence of just compensation.

B. Baumol and Merrill on Sidak and Spulber

Having summarized our own position, we turn now to the restatement that Professors Baumol and Merrill provide of our position. Our first point of clarification is that we do not raise "objections to the introduction of competition into industries formerly served by regulated monopolies."²³ Rather, we object to policies that fail to compensate incumbent utilities for the costs that such a transition entails. Our complaint is not with competition, but with regulators who pretend that costly regulatory transitions are free.

Second, we do not understand our argument to "impose significant constraints on governmental efforts to deregulate public utility monopolies when the introduction of competition creates such a 'stranded investment' problem."²⁴ We emphasize 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. In both the takings case and the contracts case, the government does not surrender its sovereignty by paying private parties for the cost of moving the economy to a Pareto-superior policy. In our criticism of Kaldor-Hicks principles we emphasized the social benefits of demanding actual, as opposed to merely potential or hypothetical, payments of compensation.

Third, Baumol and Merrill say that incumbent LECs have cited our article "to support the proposition that the prices they may charge potential competitors for access to critical bottleneck facilities . . . must be set at levels high enough to permit them to recover all the

²² See Oliver Hart, *Firms, Contracts, and Financial Structure* 5-6, 63-66 (1995); Eugene F. Fama & Michael C. Jensen, *Agency Problems and Residual Claims*, 26 *J.L. & Econ.* 327, 328 (1983). The parties entitled to the firm's residual return are called residual claimants.

²³ Baumol & Merrill, *supra* note 2, at 1037.

²⁴ *Id.* at 1038.

revenues they expected to earn from their local exchange network before the coming of competition.”²⁵ We do not, of course, speak for those companies. Our own writings and testimony, however, are clear on this point. Our recent article in the *Columbia Law Review*, which grew from our testimony in arbitration proceedings under the Telecommunications Act of 1996, makes clear that our position is that the incumbent’s price for an unbundled network element is capped by the entrant’s stand-alone cost of supplying that input.²⁶ That recognition leads to a refinement in the theory of efficient component pricing that we call the market-determined efficient component pricing rule (M-ECPR). The prices that the incumbent LEC charges its competitors under the M-ECPR are substantially less than those that the LEC would charge under the efficient component-pricing rule (ECPR) developed by Baumol and Robert D. Willig.²⁷ We are clear that an M-ECPR price for unbundled network elements cannot guarantee an incumbent LEC the same revenues that its assets generated under the regulated retail rate structure that preceded the advent of competition.²⁸ To ensure that the pricing of unbundled network elements is both efficient and compensatory, we advocate the imposition of a competitively neutral and nonbypassable end-user charge.²⁹

Fourth, we do not argue, nor do we consider ourselves to have been “enlisted” to support the proposition, “that prices for local bottleneck facilities should not be set solely on the basis of *forward-looking costs*, that is, the costs of replicating or replacing the inputs used to provide discrete network elements or services.”³⁰ The M-ECPR is a cost-based pricing rule that is inherently forward-looking because it continuously lowers the allowed input price to reflect the *market-determined* opportunity cost to the incumbent of selling an input to its competitor rather than itself. Because the stand-alone cost of the next-best access technology dictates what the incumbent LEC’s opportunity cost will be, it necessarily follows that the price that the incumbent LEC charges competitors for an unbundled network element can be no higher than the best substitute technology then in existence for that element. The fact that it might have cost the incumbent LEC

²⁵ *Id.*

²⁶ See *The Tragedy of the Telecommons*, *supra* note 6, at 1094–95, 1097–98.

²⁷ See *id.* at 1100–03 (illustrating that large discrepancies in price result from fact that ECPR assumes away competitive market alternatives to incumbent local exchange carrier’s (LEC’s) access service, while M-ECPR takes those alternatives into account).

²⁸ See *id.* at 1117–27. We made that observation briefly in the article to which Baumol and Merrill respond, which had not yet adopted the M-ECPR nomenclature. See *Deregulatory Takings*, *supra* note 1, at 978.

²⁹ See *The Tragedy of the Telecommons*, *supra* note 6, at 1104–05.

³⁰ Baumol & Merrill, *supra* note 2, at 1038 (emphasis in original).

substantially more to build that input in the past is irrelevant to the LEC's ability to charge the competitor a price for the input that recovers its historic cost. Throughout their comment on our article, Baumol and Merrill evidently do not appreciate that we distinguish between (1) the efficient price for the incumbent's sale of unbundled network access to competitors and (2) our conclusion that 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.

Fifth, it is not our position that "the law requires a fundamental departure from the principles called for by economic analysis for efficient pricing."³¹ To the contrary, our derivation of the equivalence principle makes clear that a fundamental identity exists between the efficient price of mandatory network access, expectation damages for breach of the regulatory contract, and just compensation for the taking of the incumbent utility's property. The existence of facilities-based competition for the bottleneck input complicates that identity in the manner just described and requires the regulator to authorize a competitively neutral and nonbypassable end-user charge—or, alternatively, to compensate the incumbent for the shortfall in its total economic costs through an explicit public appropriation or an award of either contract damages or just compensation. We do not assert, implicitly or explicitly, that "[t]he task of regulators and courts . . . is to prevent any taking or breach of contract from ever happening, even if this means compromising on the pricing principles required by economic efficiency."³²

Sixth, since the bulk of our analysis of remedies concerns the calculation of efficient measures of damages under takings, contract, and equitable theories, we have not addressed the question of special interest to Baumol and Merrill: whether injunctive relief should be unavailable to the incumbent firm seeking to enjoin a confiscatory order setting prices for mandatory network access. Baumol and Merrill advocate a wait-and-see approach: "the proper remedy is not to interfere with the pricing decisions reached by regulators on economic policy grounds, but to allow those decisions to be put into effect and then, after the [Telecommunications] Act [of 1996] is fully implemented, to determine whether there is any taking of property or breach of contract that remains uncompensated."³³ One need not parse the Tucker

³¹ *Id.* at 1039.

³² *Id.*

³³ *Id.*

Act to find three weaknesses in that argument.³⁴ First, the wait-and-see prescription runs counter to the principle in both law and economics that parties in a position to do so should mitigate harm while there is still time, rather than letting the wreckage accumulate. Second, it is established doctrine that a court should read a statute to avoid deciding a constitutional issue.³⁵ It follows that a court should read legislation mandating the unbundling of network industries in a way that avoids a taking of the incumbent utility's property. Third, if the ability of regulators to make credible commitments is already questionable, it strains credulity past the breaking point to suggest that those same regulators (or their successors) will accept the kudos today for ordering network unbundling at uncompensatory prices that appear to "jumpstart competition" and then make good on promises to settle all accounts with incumbent utilities several years hence.

³⁴ The Tucker Act is currently codified at 28 U.S.C. § 1491(a)(1) (1982) and reads in pertinent part:

The United States Claims Court shall have jurisdiction to render judgment upon any claim against the United States founded either upon the Constitution, or any Act of Congress or any regulation of an executive department, or upon any express or implied contract with the United States, or for liquidated or unliquidated damages in cases not sounding in tort.

See also *Preseault v. Interstate Commerce Comm'n*, 494 U.S. 1, 11-12 (1990); *Ruckelshaus v. Monsanto Co.*, 467 U.S. 986, 1016 n.20 (1984). Thus, the Tucker Act does not confer any substantive right enforceable against the United States, nor does it confer such a right against any state. Baumol and Merrill argue, however, that "LECs that can show that the FCC and the PUCs have implemented the Telecommunications Act in such a way as to create a taking or breach of contract should be able to sue the United States for damages under the Tucker Act." Baumol & Merrill, *supra* note 2, at 1053 n.60. That statement is provocative, because the express language of the Tucker Act provides for damage actions only against the United States. Therefore, in the absence of a rate order that reflected the joint action of the state and the FCC, one would not expect the Tucker Act to support an action against a state and its PUC. It is not clear that a LEC filing a takings case arising from the pricing of a mandatory network access would sue the FCC and the United States government. As Part VIII will explain in greater detail, in July 1997, the U.S. Court of Appeals for the Eighth Circuit vacated, see *Iowa Utils. Bd. v. FCC*, 120 F.3d 753 (8th Cir. 1997), after having stayed in late 1996, see *Iowa Utils. Bd. v. FCC*, 109 F.3d 418 (8th Cir. 1996), the FCC's pricing provisions in Implementation of the Local Competition Provisions in the Telecommunications Act of 1996 and Interconnection Between Local Exchange Carriers and Commercial Mobile Radio Service Providers, First Report and Order, 11 F.C.R. 15,499 (1996) [hereinafter First Report and Order]. Ever since the Eighth Circuit first issued its stay, none of the state PUCs could be expected to be so naive or impolitic as to say, in either an interim or permanent rate order concerning unbundled elements and resale, that the state commission was embracing the FCC's recommended interpretation of the pricing provisions of the 1996 legislation. Instead, the states reached and may continue to reach the same interpretation as the FCC's, ostensibly through their own reading of the Telecommunications Act of 1996. Thus, one would expect the LECs to file their takings cases in federal district court in the respective states. The defendants in each case presumably would be the state and its PUC. If so, the protection that the Tucker Act offers property owners in a takings case would not apply to the LEC's claims.

³⁵ See *supra* text accompanying note 21.

II

A TALE OF TWO RAILWAYS

Two Supreme Court decisions involving railways, one from 1915 and another from 1945, have great relevance to the mandatory unbundling of network access now occurring or expected to occur imminently in local telephony and in the electric power industry. The first case is virtually unknown today. The second is widely misunderstood.

A. *Northern Pacific Railway and the Regulator's Redefinition of the Intended Use of Private Property Dedicated to a Public Purpose*

The Supreme Court's 1915 decision in *Northern Pacific Railway Co. v. North Dakota*³⁶ emphasizes that once a regulated utility has dedicated private property to a public purpose, the government cannot appropriate that property for a different purpose. The case involved a challenge by two railroad companies to a North Dakota statute setting maximum rates on the intrastate carriage of coal. The railroads claimed that the rates forced them to carry coal at a loss or at an uncompensatory rate (taking into account a competitive return to capital) and therefore constituted a taking of private property. Although the North Dakota Supreme Court agreed that the rates forced the companies to carry coal at an uncompensatory rate, it nonetheless deemed those rates not to be confiscatory because overall the companies continued to earn a reasonable return on their intrastate business.

The Supreme Court reversed. It held that the statute was an attempt to take a carrier's property without due process of law in violation of the Fourteenth Amendment. Although the state enjoys broad power to regulate private property devoted to a public use, Justice Charles Evans Hughes, writing for the eight-member majority, stressed that "the state does not enjoy the freedom of an owner."³⁷ That the state may reasonably regulate to ensure that a carrier fairly discharges the obligations of its charter does not mean that the state may redefine the public use to which the carrier's property is dedicated, even if the carrier's total business continues to earn a sufficient return:

The fact that the property is devoted to a public use on certain terms does not justify the requirement that it shall be devoted to other public purposes, or to the same use on other terms, or the imposition of restrictions that are not reasonably concerned with

³⁶ 236 U.S. 585 (1915).

³⁷ *Id.* at 595. The lone dissenter, Justice Pitney, wrote no opinion.

the proper conduct of the business according to the undertaking which the carrier has expressly or impliedly assumed. . . . The public interest cannot be invoked as a justification for demands which pass the limits of reasonable protection, and seek to impose upon the carrier and its property burdens that are not incident to its engagement. In such a case, it would be no answer to say that the carrier obtains from its entire intrastate business a return as to the sufficiency of which in the aggregate it is not entitled to complain.³⁸

As an example, Justice Hughes stated that if the firm "has held itself out as a carrier of passengers only, it cannot be compelled to carry freight."³⁹ That simple example from 1915 has a contemporary counterpart in the debates of the 1990s over mandatory unbundling of access to telephony and electric power networks: if the regulated firm has held itself out as an integrated network providing service directly to customers, can it be compelled to rededicate that network to providing service to other (unregulated) firms that compete with the regulated firm for sales to retail customers? *Northern Pacific Railway* says no. Given the relevance of that answer, it is remarkable that the public debate over the Telecommunications Act of 1996 appears never to have considered the question.

Northern Pacific Railway also established that the proposed redefinition is not made any more constitutionally permissible by the fact that the state intends that redefinition to serve an important public policy goal that materially benefits the state's residents. The Court considered it beside the point that North Dakota believed that the rates would "aid in the development of a local industry," an industry whose "infancy" and potential "to confer a benefit upon the people of the state" were matters of sincere concern to the state.⁴⁰ North Dakota's goal of "making the community less dependent upon fuel supplies imported into the state"⁴¹ could not justify its resorting to an appropriation of private property as the means to achieve that objective:

[W]hile local interests serve as a motive for enforcing reasonable rates, it would be a very different matter to say that the state may compel the carrier to maintain a rate upon a particular commodity that is less than reasonable, or—as might equally well be asserted—to carry gratuitously, in order to build up a local enterprise. That would be to go outside the carrier's undertaking, and outside the field of reasonable supervision of the conduct of its business, and

³⁸ Id. at 595–96.

³⁹ Id. at 595.

⁴⁰ Id. at 598.

⁴¹ Id.

would be equivalent to an appropriation of the property to public uses upon terms to which the carrier had in no way agreed.⁴²

That passage illuminates the contemporary debate over the regulatory contract because its logic rests on the consensual nature of regulation: the firm dedicates its private property to a public purpose only as the result of voluntary exchange. Justice Hughes emphasized throughout the opinion that, although the legislature's discretion to set both general and particular rates is extremely wide and such rates enjoy a presumption of reasonableness, it is another matter entirely when the state acts to alter fundamentally the obligations imposed on the carrier by its acceptance of the original regulatory contract: "The constitutional guaranty protects the carrier from arbitrary action and from the appropriation of its property to public purposes outside the undertaking assumed"⁴³

The Court's emphasis on the original understanding of the intended use of regulated property in *Northern Pacific Railway* sheds light on why, and the degree to which, the regulated firm would have willingly opted for asset specificity rather than asset generality in making its investments. If the regulated firm had expected that it could be required to use its dedicated property for a purpose other than that for which such property was originally dedicated, then the firm would have borne the risk that, in the newly designated purpose, the property might fail to earn a sufficient return originally understood by the utility and the municipality to be necessary to allow the firm to recover that capital and a competitive return on such capital over its useful life. Faced with such risk, the firm presumably would have opted instead for a different kind of capital having a lesser degree of asset specificity or a shorter useful life, or both. While investment in that alternative kind of capital would have reduced the risk to the regulated firm of having its regulated property redirected to an originally unintended use, that investment might not have been the most efficient use of capital in terms of minimizing the cost to society of producing the service in question. If so, then the regulator's rededication of the use of the dedicated property would impose a social cost.

There is an additional implication, relating to entry regulation, of the requirement that the regulator not rededicate the use to which regulated property is to be put. Some states have long forbidden municipalities to grant exclusive franchises for the provision of services such as local telephony and electricity.⁴⁴ Given that the absence of

⁴² *Id.* (emphasis added).

⁴³ *Id.* at 604.

⁴⁴ See, e.g., Tex. Const. art. I, § 26 ("Perpetuities and monopolies are contrary to the genius of a free government, and shall never be allowed . . . in this State.").

franchise exclusivity raised the risk that a utility would not receive a reasonable opportunity to recover its irreversible and nonsalvageable investment in network infrastructure, and given that the utility's rates were regulated not to exceed just and reasonable levels, why would the utility's investors nonetheless have been willing to risk their capital? Perhaps such investors received a risk premium relative to the return on capital for utilities in jurisdictions that did not forbid franchise exclusivity. But it seems at least as likely that such a premium was unnecessary because the risk was not appreciable. In other words, investors even in jurisdictions that forbade franchise exclusivity may have taken sufficient comfort in knowing that their transaction-specific investments were dedicated to a *specific purpose*—the provision of retail services *directly to customers* in the municipality that granted the franchise. Since the Supreme Court's decision in the *Express Cases*⁴⁵ in 1885, it had been clear under the common law of common carriage that a public utility could not be required to sell interconnection to another carrier.⁴⁶ And early cases such as *Pacific Telephone & Telegraph Co. v. Eshleman*,⁴⁷ decided by the California Supreme Court in 1913, emphasized that a regulator could not mandate unbundled network access to accommodate a competitor, and that a state legislature could do so *only if* it paid just compensation to the incumbent utility.⁴⁸ Thus, when investors built the first local telephone and electricity networks under nonexclusive franchises, it would not have occurred to them, or to the municipality franchising them, that the municipality (or its successor, the state public utility commission) might subsequently rededicate such regulated property to the purpose of providing a rival firm the infrastructure with which to lure away the incumbent utility's retail customers. Indeed, the early years of local telephony witnessed a race among competing facilities-based LECs with overlapping networks to maximize subscriber-ship within a service area.⁴⁹

The one form of potential competition that the utility and the municipality did originally envision was of a completely different sort. If competition were to occur, it would take the form of another utility's receiving another nonexclusive franchise to build its own transac-

⁴⁵ *St. Louis, Iron Mountain & S. Ry. Co. v. Southern Express Co.*, 117 U.S. 1 (1885).

⁴⁶ See *id.* at 26-29; see also Michael K. Kellogg et al., *Federal Telecommunications Law* § 1.3.1, at 13-14 (1992) (describing express companies' attempt to compel railway to offer shipping services at wholesale rates in *Express Cases*).

⁴⁷ 137 P. 1119 (Cal. 1913).

⁴⁸ See *id.* at 1127-28.

⁴⁹ See Milton L. Mueller, Jr., *Universal Service: Competition, Interconnection, and Monopoly in the Making of the American Telephone System* 60 (1997).

tion-specific infrastructure. Yet, such facilities-based entry was not expected to occur because LECs and electric utilities were thought to be natural monopolies; indeed, such entry was considered futile and wasteful. That is the reason that entry regulation taking the form of the prior grant of certificates of necessity and convenience placed so much emphasis on avoiding duplicative facilities. In other words, neither the municipality nor the original franchised utility ever expected that competitive entry would take the form of mandated access to the incumbent's network.

Furthermore, if the incumbent's network was to be occupied—in any degree—by some party other than the utility that owned it, that party was understood to be the municipality itself. Some franchise agreements gave the municipality the option to buy out the utility's network at the end of the franchise term for a price voluntarily negotiated by the parties or, in the case of deadlock, for a price set by arbitration.⁵⁰ "Recapture" was the name given to this form of public buyout of the utility. As Irston R. Barnes wrote in 1942:

The long-term franchise may contain a recapture clause, combined with a provision for the amortization of the utility's investment out of its earnings. Such a clause requires the management to use surplus earnings for the amortization of the investment, presumably through the retirement of outstanding securities. At the end of the franchise period, the municipality has the right to assume title to the utility property on payment of the unamortized investment, or the municipality may even have the right to provide for a transfer of the property to another corporation, or the right to recapture may be operative at stated intervals after a designated period.⁵¹

Of course, at any time *during* the franchise term the municipality independently had the option simply to exercise eminent domain over the utility's network, which would trigger an analogous valuation process for determining just compensation for the forced buyout.

⁵⁰ See, e.g., Corpus Christi, Tex., An Ordinance Granting to Central Power and Light Company, Its Successors and Assigns, an Electric Light, Heat and Power Franchise § 4 (Aug. 19, 1935) (on file with the *New York University Law Review*). This agreement notes that:

Upon the termination of this grant, the grant as well as the property, if any, of the Grantee in the streets, avenues and other public places, in the then city limits of the City of Corpus Christi, shall thereupon, upon a fair valuation thereof being paid to the Grantee, be and become the property of the City of Corpus Christi, and the Grantee shall never be entitled to any payment or valuation because of any value derived from the franchise or the fact that it is or may be a going concern duly installed and operated, provided, however, it shall be optional with the City of Corpus Christi whether or not it acquires title to said properties in said manner.

Id.

⁵¹ Irston R. Barnes, *The Economics of Public Utility Regulation* 220 (1942).

Northern Pacific Railway has relevance to current policies on network unbundling such as the FCC's 1996 interconnection order.⁵² To price mandatory access to the incumbent LEC's network elements, the FCC introduced the concept of total *element* long-run incremental cost (TELRIC),⁵³ which is to be distinguished from total *service* long-run incremental cost (TSLRIC). TELRIC embodies more than a new kind of costing exercise. It reflects a fundamental redefinition of the output of the regulated LEC. In the past, the output of a LEC consisted of services. After the FCC's 1996 interconnection order, the incumbent LEC's output has been redefined to consist of elements, which are intermediate inputs. The difference is significant in at least two respects.

First, the incumbent LEC built its network in the manner that it did so that it could discharge an obligation to serve—that is, to provide services to consumers. The incumbent LEC, however, now faces both an ongoing obligation to provide services to consumers and a new obligation to supply elements to competitors. The latter was never contemplated when the incumbent LEC dedicated the private property of its investors to a public purpose.

Second, there will likely be significant transactions costs of using the incumbent LEC's network to provide elements rather than services as its intended output. Those new costs are a cost of achieving the benefits that Congress and the FCC envisioned from the mandatory unbundling of local telephony. But it is neither efficient nor constitutional to make the shareholders of incumbent LECs absorb those costs. Rather, such costs must be fully recovered in the rates that an incumbent LEC may charge for unbundled elements. If demand conditions preclude setting prices at a sufficiently high level to recover those costs, then an end-user charge must be employed to recover the residual amount of cost beyond what can be recouped through the market-allowed price.

B. Market Street Railway and the Risk of Endogenous Regulatory Change

Opponents of stranded cost recovery frequently cite the Supreme Court's decision in *Market Street Railway Co. v. Railroad Commission of California*⁵⁴ for the proposition that no taking of property occurs when the government breaches the regulatory contract. That reliance is misplaced for several reasons.

⁵² First Report and Order, *supra* note 34.

⁵³ *Id.* ¶¶ 674-732, at 15,844-69.

⁵⁴ 324 U.S. 548 (1945).

Market Street Railway involved a privately owned railway operating a street car and bus line in and around San Francisco.⁵⁵ Increased competition from other forms of transportation, such as buses and automobiles—as well as direct, probably taxpayer-subsidized competition from a municipally owned railway—had eroded the railway's passenger base and financial condition.⁵⁶ In 1937 the railway began petitioning the state railway commission for a fare increase from five to seven cents.⁵⁷ The commission approved the seven-cent fare in 1939.⁵⁸ Initially, the increased fare produced no increase in revenues; passenger traffic continued to decline, no doubt at least partly in response to the higher fare. Meanwhile, the city railway continued to charge only five cents.⁵⁹ Although demand subsequently increased as a result of conditions caused by World War II, the commission became concerned about the continued deterioration of service.⁶⁰ It instituted an inquiry into both the reasonableness of the rates and the adequacy of service.⁶¹ The commission concluded the inquiry by ordering an experimental decrease in the fare from seven to six cents, partly because it hoped to increase revenues by stimulating demand. The company obtained a delay in implementing the new fare pending judicial review, and eventually it sold its properties to the city's municipally owned railway.⁶²

The U.S. Supreme Court affirmed the California Supreme Court and ruled that the commission's order that the railway company reduce its base cash fare from seven to six cents did not deprive the Market Street Railway of its property without due process of law under the Fourteenth Amendment of the U.S. Constitution.⁶³ Although the company advanced numerous procedural and substantive arguments, its central objection was to the commission's decision, when calculating the new six-cent fare, to use a rate base of \$7,950,000, the amount at which the company had offered to sell its properties to the city.⁶⁴ The lower fare, the company argued, compelled the company to operate at a loss. By relying on the sales amount, the company contended that the commission improperly disregarded "reproduction cost, historical cost, prudent investment, or

⁵⁵ See *id.* at 552, 554.

⁵⁶ See *id.* at 554-56.

⁵⁷ See *id.* at 555.

⁵⁸ See *id.*

⁵⁹ See *id.*

⁶⁰ See *id.* at 555-56.

⁶¹ See *id.* at 556-57.

⁶² See *id.* at 557.

⁶³ See *id.* at 558-59.

⁶⁴ See *id.* at 553-54.

capitalization bases, on any of which under conventional accounting the six-cent fare would produce no return on its property and would force a substantial operating deficit upon the Company.”⁶⁵

Three factors distinguish *Market Street Railway* from the present cases of electric utilities and of LECs attempting to recover their stranded costs. First, the company’s costs became stranded because of changing economic and technological forces, not because of decisions by the regulatory body or other changes in law and regulation. The Court repeatedly emphasized that the streetcar industry was growing obsolete for reasons beyond the control of either the company or regulators: “It has long been recognized that this form of transportation could be preserved only by the most complete cooperation between management and public and the most enlightened efforts to make the service attractive to patrons.”⁶⁶ Indeed, a close reading of the case suggests that natural disaster made the Market Street Railway an especially unlucky firm in an already necrotizing industry. The railway “suffered greatly from the earthquake and fire of 1906, but carried out a considerable program of reconstruction between 1906 and 1910.”⁶⁷ Thus, in an industry already losing customers as the result of exogenous changes in technology and market demand, the devastation of 1906 suddenly required this particular street railway to make substantial *new* investment in nonsalvageable assets. Such investment was directly contrary to the trend of falling (and, by 1916, consistently *negative*) net capital expenditures in that industry.⁶⁸ By 1919, the Court noted, the Secretary of Commerce and Labor had advised President Wilson that the urban street railway industry as a whole was “virtually bankrupt.”⁶⁹ Because the railway owed its deterioration to industry-wide conditions and market forces rather than any acts or omissions by regulators, there could be no constitutional violation: “The due process clause has been applied to prevent governmental destruction of existing economic values. It has not and cannot be applied to insure values or to restore values that have been lost by the operation of economic forces.”⁷⁰

⁶⁵ Id. at 553–54.

⁶⁶ Id. at 565.

⁶⁷ Id. at 555.

⁶⁸ See Melville J. Ulmer, *Capital in Transportation, Communications, and Public Utilities: Its Formation and Financing* 402–04, 405–07 tbl.F-1 (1960). Ulmer attributed the decline of the street railway industry as a whole to competition and the industry’s inability “to produce services over a range of grades sufficient to counterbalance the tendency toward a declining income elasticity of demand.” Id. at 89.

⁶⁹ *Market St. Ry.*, 324 U.S. at 565 n.8.

⁷⁰ Id. at 567.

Unlike the streetcar industry of the early twentieth century, today's electric power industry does not face steadily diminishing demand for electricity and the looming obsolescence of its transmission and distribution infrastructure. The same is true of local exchange telecommunications and the continued demand to use the infrastructure of the incumbent LEC.⁷¹ Not surprisingly, in 1957 the U.S. Court of Appeals for the D.C. Circuit ruled that the holding in *Market Street Railway* "has no application, as the opinion shows, to a dynamic industry which is in the midst of phenomenal growth."⁷² The court emphasized that predictions of a regulated industry's demise from exogenous forces of technology or competition must have a reasonable time horizon: the holding in *Market Street Railway* "would not have applied to the ordinary metropolitan street railway company at the turn of the century, when the industry was flourishing and traction stocks had gilt edges, on the mere possibility of a drastically depressing economic change such as occurred with the advent of the automobile."⁷³

Second, the expected obsolescence of the streetcar infrastructure drastically undermined the Market Street Railway's ability to argue that a higher rate of return was essential to attract future capital investment. As the Court explained, prior decisions involving economically viable utility companies are largely inapplicable to industries shortly to be relegated to the dustbin of history:

It is idle to discuss holdings of cases or to distinguish quotations in decisions of this or other courts which have dealt with utilities whose economic situation would yield a permanent profit, denied or

⁷¹ An earlier Supreme Court decision, *Public Service Commission of Montana v. Great Northern Utilities Co.*, 289 U.S. 130 (1933), is sometimes cited as consistent with *Market Street Railway*. The similarity is merely rhetorical and consists of the statements that "[t]he loss of, or failure to obtain, patronage, due to competition, does not justify the imposition of charges that are exorbitant and unjust to the public," and that takings jurisprudence "does not protect public utilities against such business hazards." *Id.* at 135. The case, however, concerned a municipality's refusal to authorize a utility holding a nonexclusive franchise to lower its rates sufficiently to stem the loss of sales to a competing entrant. See *id.* at 132. In apparent disregard for the existence of the antitrust laws, the Court said that the incumbent utility "insists that it has a constitutional right by unrestrained cutting of rates to destroy the competitor." *Id.* at 135. The facts reported in the Court's opinion, however, confirm that any such predatory scheme, if it indeed was attempted, failed miserably. Moreover, the durability of the infrastructure built by a facilities-based entrant into a network industry makes predation all the more implausible. Suffice it to say, *Great Northern Utilities* does not illuminate the issue of deregulatory takings, other than to show the Court's inability to recognize that minimum price regulation was thwarting the incumbent firm's efforts to mitigate stranded costs by reducing price to lower than its competitor's.

⁷² *Cincinnati Gas & Elec. Co. v. Federal Power Comm'n*, 246 F.2d 688, 692 (D.C. Cir. 1957).

⁷³ *Id.*

limited only by public regulation. While the Company does not assert that it would be economically practicable to obtain a return on its investment, it strongly contends that the order is confiscatory by the tests of *Federal Power Commission v. Hope Natural Gas Co.*, from which it claims to be entitled to a return "sufficient to assure confidence in the financial integrity of the enterprise, so as to maintain its credit and to attract capital" and to "enable the company to operate successfully, to maintain its financial integrity, to attract capital, and to compensate its investors for the risks assumed." Those considerations . . . concerned a company which had advantage of an economic position which promised to yield what was held to be an excessive return on its investment and on its securities. They obviously are inapplicable to a company whose financial integrity already is hopelessly undermined, which could not attract capital on any possible rate, and where investors recognize as lost a part of what they have put in.⁷⁴

Electric utilities and incumbent LECs, in contrast, are likely after mandatory unbundling to need to raise capital on a routine and recurring basis.

There is a third crucial distinction between Market Street Railway's predicament and the regulatory situation currently facing electric utilities and incumbent LECs. The regulatory body in *Market Street Railway* apparently was making a good-faith attempt to improve the company's competitive position to the extent feasible in the face of overwhelming competition from other providers. There was no expectation or requirement, however, that the private railway company would be forced to share its bottleneck infrastructure with the municipal railway or other private transportation companies without adequate compensation for forgone revenues or recovery of its sunk costs. In contrast, retail wheeling and unbundling of the local exchange envision an otherwise solvent incumbent firm's being mandated to provide competitors access to its reticulation infrastructure. Had the commission in *Market Street Railway* imposed similar requirements on the company—for example, by forcing it to make its tracks available to the city's cars or its own idle cars available to the city for use on the city's lines—and had the industry otherwise been healthy, the Court presumably would have reached a different result.

Finally, *Market Street Railway* may be distinguishable as a case of opportunistic behavior by the city in operating the municipal railway. The private company competed on some routes against the municipi-

⁷⁴ *Market St. Ry.*, 324 U.S. at 566 (citation omitted) (quoting *Federal Power Comm'n v. Hope Natural Gas Co.*, 320 U.S. 591, 603, 605 (1944)).

pally owned railway,⁷⁵ which wanted to expand by acquiring the company's routes. Further, the company charged a higher price than the city line yet was still losing money, which suggests that the city might have been subsidizing the railway's incremental cost of operation through tax receipts—which no private company, of course, could do. The Court paid little attention to the city's competitive privileges. Perhaps it ignored the issue in the recognition that municipalization of the private railway was the only way to preserve the streetcar industry.

In 1997 the Public Utility Commission of Texas read *Market Street Railway* to imply that the Takings Clause does not "guarantee a utility a return in the face of a more successful competitor."⁷⁶ In 1996 a state trial court in New York, relying on *Market Street Railway*, characterized the question posed by the recovery of stranded costs in the electric power industry as one of "whether utilities, as a matter of law, are entitled to rates that are designed to recover all competitive losses, irrespective of the impact that such rates would have on consumers or a State's economy."⁷⁷ Both propositions are red herrings that reveal the depth of the contemporary misunderstanding of *Market Street Railway* that exists among regulators and jurists.⁷⁸ *Market Street Railway* did not concern investments by a regulated firm that had become

⁷⁵ See *id.* at 555.

⁷⁶ In re Central Power & Light Co., 176 Pub. Util. Rep. 4th (PUR) 397, 444 (Tex. P.U.C. 1997).

⁷⁷ In re Energy Ass'n v. Public Serv. Comm'n, 169 Misc. 2d 924, 942 (N.Y. Sup. Ct. 1996). The opinion begins with a metaphor drawn from Greek mythology:

In mythological times fire was the exclusive property of the gods. When Prometheus, a Titan, broke the monopoly of the gods and brought the gift of fire to mankind, so incensed were the gods that they caused Prometheus to be chained to a great rock where during the day an eagle devoured his liver. During the night his liver regenerated and the process continued until Prometheus was freed by Hercules.

We turn now to the real world. Fire no longer belongs to the gods, but to the People. The overriding issue of this case is the mode to be followed by the People for generation, transmission and distribution of fire, transmogrified in the context of this case into electric energy—monopolistic or competitive, or some gradation in between.

Id. at 927. The court later states:

Prometheus' act of courage and beneficence in breaking the monopoly of the gods by giving electrical energy to mankind—and its terrible consequences to him—may not be demeaned by a mere transfer of that monopoly to the lords of industry, for the benefit only of some and not of all. It was a gift to *mankind*, not a gift to a favored few.

Id. at 937 (emphasis in original).

⁷⁸ For similar misinterpretations of *Market Street Railway*, see In re Restructuring New Hampshire's Electric Utility Industry, 175 Pub. Util. Rep. 4th (PUR) 193, 276 (N.H. P.U.C. 1997); In re Restructuring of the Elec. Util. Indus., 165 Pub. Util. Rep. 4th (PUR) 102 (Vt. Pub. Serv. Bd. 1996).

unrecoverable (less “useful” in the jargon of utility regulation) because of a change in *regulatory* policy. To the contrary, the regulatory action taking place in that case was a rate decision that reflected the regulator’s conclusion that exogenous changes in the market demand for street railway service had reduced the viability of a regulated enterprise providing such service. If a more successful competitor has arrived, as the Texas commission posited, then the relevant question that *Market Street Railway* poses is: how did the competitor get there in the first place and achieve its success over the incumbent utility? Did the regulator endogenously change the regulatory regime to permit entry that frustrated the incumbent utility’s reasonable opportunity for cost recovery, which was the means by which the municipality (and later the state commission) originally induced the utility to make its nonsalvageable investment? If so, then *Market Street Railway* in no way undermines the conclusion that the Takings Clause requires the payment of just compensation. Alternatively, did the utility’s revenues collapse in the face of exogenous changes in either technology or market demand—changes that incidentally accrued to the competitor’s benefit? If so, then *Market Street Railway* supports the conclusion that the Takings Clause does not require the state to compensate the incumbent utility for its lost opportunity to recover its costs. What if the answer to both questions is yes? In such a case of joint causation—where endogenous regulatory change occurred simultaneously with exogenous changes in technology and market demand—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. The portion attributable to endogenous regulatory change will, of course, deserve just compensation under the Takings Clause.

III GIVINGS AND TAKINGS

A defense against the payment of compensation for deregulatory takings is the argument that the regulator (or the legislature) has already provided, or is concurrently providing, other benefits to the regulated firm, benefits whose economic value should be recognized as an offset to any deregulatory takings that might have occurred. Professors Baumol and Merrill make this argument with respect to RBOC entry into the interLATA market.⁷⁹ Although plausible in principle, that argument will be unpersuasive in practice in many cases in which it is invoked. Our formula for just compensation already in-

⁷⁹ See Baumol & Merrill, *supra* note 2, at 1058-59.

corporates the *quid pro quo*, because that formula accounts for the difference between the present discounted value of net earnings expected under regulation and those expected under competition. Consequently, any increments in net revenues due to increased revenues or lowered costs are automatically taken into account. It bears emphasis that just compensation applies only to the expected net revenues from *regulated* assets; the same restriction should apply to the calculation of offsetting givings.

A number of considerations must go into the proper accounting for deregulatory givings. If regulators confer a benefit on the regulated firm, that benefit must be sufficient to offset the deregulatory taking. That is, the giving's economic value must be fully compensatory. Merely counting up takings and givings in a qualitative sense is not a useful exercise. Instead, it is necessary to place a valuation on those regulated assets affected by the takings and givings, even if economic projections of expected net revenues are necessary. The giving generally should not be retroactive, nor should it double count a *quid pro quo* that was already struck between the regulator and the firm. For example, the past award of a regulatory franchise or a past rate increase cannot count again today as a giving because the regulator presumably granted each such benefit to the regulated utility not as largess, but in consideration of the public service obligations that the firm agreed to (and subsequently did) perform. Similarly, the firm's ability to recover, through depreciation, the investments in its rate base is a preexisting, bargained-for exchange that has already lessened the firm's unrecovered regulated costs. By the same logic as the preexisting-duty rule in contract law,⁸⁰ the government cannot assert that past benefits that it conferred on a regulated firm as part of the regulatory contract may count again as implicit compensation for the government's subsequent taking of the firm's private property.

The preceding caveats should not be taken as disagreement with the basic proposition that deregulation may confer benefits on the incumbent firm that offset potential losses from deregulation. The extent of such offsets, however, depends to a great measure on the nature of the regulatory decisions. That issue relates closely to the duty to mitigate, which we examined in our earlier article in the case of the regulatory contract.⁸¹ Thus, if 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

⁸⁰ See generally Restatement (Second) of Contracts § 73 (1981) (explaining preexisting-duty rule and providing examples of its application).

⁸¹ See Deregulatory Takings, *supra* note 1, at 921-22.

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. If the regulator allows the regulated firm to remove cross-subsidies from its rate structure, or if the regulator relaxes incumbent burdens, then the regulator will indeed offset or mitigate the extent to which the taking of the firm's private property is uncompensated. In 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. To reiterate, however, that analysis will likely require an empirical valuation of the givings that the government claims as offsets to the incumbent firm's taking.

The lifting of regulatory quarantines can provide another example of mitigation of takings under certain conditions. It is critical, however, that the quarantine not be newly imposed as part of the deregulation process. Otherwise, for the regulator to use the lifting of the quarantine as compensation for the taking would create a strong incentive for regulators to impose new and inefficient restrictions simply to lift them later as a form of implicit compensation for *other* regulatory changes that will adversely affect the regulated firm. Such conduct would be little more than regulatory extortion.⁸² One could argue, as Professors Baumol and Merrill do, that by ending the Modification of Final Judgment (MFJ), Congress also opened the long-distance telecommunications markets to entry by the regional Bell operating companies. Whether the RBOCs received a legal entitlement that they did not already possess is debatable, however. Indeed, as Paul W. MacAvoy has argued, the Telecommunications Act of 1996 made the RBOCs *worse* off in terms of the regulatory process for supervising their entry into interLATA services.⁸³ As we explain in our forthcoming book, the Telecommunications Act of 1996 imposed on the RBOCs even more rigorous barriers to entry into interLATA services, in the form of the competitive checklist, than existed under the waiver process applicable to the MFJ's line-of-business restrictions.⁸⁴ The FCC further heightened those barriers to entry in its interpretation of the interconnection and access pricing requirements of

⁸² See Fred S. McChesney, *Money for Nothing* (1997); Fred S. McChesney, Rent Extraction and Rent Creation in the Economic Theory of Regulation, 16 *J. Legal Stud.* 101 (1987).

⁸³ See Paul W. MacAvoy, *The Failure of Antitrust and Regulation to Establish Competition in Long-Distance Telephone Services* 175-212 (1996).

⁸⁴ *Deregulatory Takings and the Regulatory Contract*, supra note 5, ch. 3 (discussing 47 U.S.C.A. § 271 (West Supp. 1997)).

the 1996 legislation.⁸⁵ It is therefore questionable whether the government's lifting of those *new* statutory and regulatory restrictions could be a quid pro quo for the deregulatory takings that the FCC's orders on local exchange competition and on the pricing of interstate access are likely to impose on RBOC shareholders.

In short, the regulator cannot have it both ways. If its lifting of newly created restrictions would have a positive economic value to the incumbent firm, then their imposition must have imposed an equal economic cost on the firm. Thus, by imposing and lifting a regulatory restriction in rapid succession, the regulator would achieve a net economic effect on the incumbent firm that should be negligible. Indeed, the transaction costs and financial uncertainty that such actions would entail would more likely impose net costs on the incumbent firm. As a matter of takings jurisprudence, the regulator's claim to having canceled the cost of new restrictions by conferring the benefit of lifting them would be no less specious if the regulator's statutory powers were to permit it to impose such new restrictions.

The need to value givings properly and to restrain new regulations that force companies to accept takings would improve the economic efficiency of the deregulation process. The payment of just compensation for takings and the proper economic valuation of givings are necessary to give regulators incentives for efficient behavior, or at least to restrict their inefficient confiscatory actions. Just compensation similarly restrains the government's exercise of its power of eminent domain. Just compensation for deregulatory takings and the proper economic valuation of givings limit the state's power to coerce, constraining what Judge Posner has termed "taxation by regulation."⁸⁶

IV

A FURTHER DELINEATION OF THE LIMITING PRINCIPLES FOR THE RECOVERY OF STRANDED COSTS

Our previous article defined deregulatory takings and demonstrated the equivalence that exists between damages for breach of the regulatory contract, just compensation for a taking of property, changes in investor expectations, and (under certain conditions con-

⁸⁵ See, e.g., *In re Access Charge Reform, Price Cap Performance Review for Local Exchange Carriers, Transport Rate Structure and Pricing, and Usage of the Public Switched Network by Information Service and Internet Access Providers*, Notice of Proposed Rulemaking and Notice of Inquiry, 11 F.C.C.R. 21,354 (Supp. 1996); *First Report and Order*, supra note 34; *In re Implementation of the Non-Accounting Safeguards of Sections 271 and 272 of the Communications Act of 1934, as amended*, *First Report and Order and Further Notice of Proposed Rulemaking*, 11 F.C.C.R. 21,905 (Supp. 1996).

⁸⁶ Richard A. Posner, *Taxation by Regulation*, 2 *Bell J. Econ. & Mgmt. Sci.* 22 (1971).

cerning the stand-alone cost of substitute technologies) the efficient pricing of network access.⁸⁷ Such an analysis would not be complete without specifying the limits on stranded cost recovery. What conditions are *sufficient* for a regulatory action to constitute a deregulatory taking? What conditions are *necessary* for a deregulatory taking? The answers to those questions will give regulators, legislators, and judges guidance as to whether eliminating taxicab medallions, agricultural production quotas, or occupational licensure, to take three common examples, would engender compensable stranded costs. The answers also will clarify whether stranded costs are more likely to arise in one regulated network industry (such as electricity) than in another (such as local exchange telephony). We emphasize at the outset that the questions addressed in this Part are subtle on both legal and economic grounds, and they will likely acquire greater complexity as the restructuring of network industries continues to unfold. As with any question of first impression, the delineation of limiting principles for stranded cost recovery will be an iterative process that will likely take a number of years to achieve convergence. Our analysis in this Part is therefore not the final word, but only the beginning of what we are confident will be an extended undertaking.

A. *Necessary and Sufficient Conditions for the Recovery of Stranded Costs*

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. Our previous article established that those conditions are sufficient for recovery of stranded investment. We now show that those conditions are also necessary to support a claim, under contract principles or takings jurisprudence, for recovery of stranded investment. The absence of any one condition implies that a firm's claim that it has suffered a deregulatory taking should fail.

1. *The Existence of a Regulatory Contract*

The existence of a regulatory contract is a necessary condition for the recovery of stranded investment. There must have been a clear understanding of the terms and conditions of regulation with respect to entry controls, rate regulation, and service obligations. If any of

⁸⁷ See *Deregulatory Takings*, *supra* note 1, at 976-80.

these three essential components is absent, a regulatory contract has not been formed, and a deregulatory taking cannot have occurred.

Consider the first element of the regulatory contract. If a market has no regulatory entry controls, then increased competition in the market cannot be attributed to changes in regulatory policy concerning entry. Steel producers and agribusinesses, for example, may benefit from barriers to entry taking the form of import controls. But those firms have not entered into any regulatory contract with the state to assume public service obligations and to submit to rate regulation in exchange for the imposition of those entry barriers. Consequently, those firms could not make claims of deregulatory takings on the government if it were to remove those barriers and allow increased freedom of trade.

Regulation of maximum rates is the second essential aspect of the regulatory contract. It is closely associated with the regulator's responsibility to allow the utility's investors a reasonable opportunity to earn a competitive rate of return. If rate regulation is absent, then no deregulatory taking can arise because it is unlikely that private parties entered into any regulatory contract with the government.

The obligation to serve is the third component necessary to the formation of the regulatory contract. It follows that no deregulatory taking can occur if service obligations are absent. Such obligations must exist because stranded investment is the utility's cost of facilities and other expenditures made to perform its obligation to serve. The obligation to serve (through common carrier, universal service, or carrier-of-last-resort rules) generally does not exist in isolation from entry and rate controls.

Some statutory entitlements to welfare benefits and the like do constitute property for purposes of due process.⁸⁸ But, if withdrawn by the government, such a benefit concerning economic activity should not support a claim of deregulatory taking unless the statute was part of a voluntary exchange between the state and the regulated firm. The potential for ambiguity and dispute under any lesser standard is suggested by Justice Stewart's remark in *Board of Regents v. Roth*⁸⁹ that to have a property interest in a statutory entitlement, a person's claim to it must rest not on a mere "unilateral expectation"

⁸⁸ See *Goldberg v. Kelly*, 397 U.S. 254, 262 & n.8 (1970) (welfare payments); see also *Bishop v. Wood*, 426 U.S. 341, 344 (1976) (tenured public employment); *Mathews v. Eldridge*, 424 U.S. 319, 332 (1976) (social security disability benefits); *Goss v. Lopez*, 419 U.S. 565, 574 (1975) (public education); *Fusari v. Steinberg*, 419 U.S. 379, 379-80 (1975) (unemployment benefits); *Wheeler v. Montgomery*, 397 U.S. 280, 281-82 (1970) (old-age benefits).

⁸⁹ 408 U.S. 564 (1972).

but on “a legitimate claim of entitlement to it” that reflects the goal of property law “to protect those claims upon which people rely in their daily lives, reliance that must not be arbitrarily undermined.”⁹⁰

Relative to Justice Stewart’s inquiry, our requirement that a regulatory contract exist is more demanding and less ambiguous. Our criterion avoids inquiry into the reasonableness or legitimacy of unilateral expectations; instead, it focuses on the existence of demonstrable evidence of a voluntary exchange between the state and a private firm to produce services that benefit consumers, on whose behalf the state has negotiated as agent. The formality of the regulatory process—with notice, written comments, and hearings on the record—provides the mechanism for verifying the mutuality of voluntary exchange and a meeting of the minds. The past decisions and method of operation of the regulatory agency and the legal framework within which the regulatory agency operates are essential aspects of the regulatory contract that must be identified before a deregulatory taking can be established.⁹¹

2. *Investment-Backed Expectations*

Investment-backed expectations are the second of the four necessary preconditions for a deregulatory taking. If a firm simply produces a regulated service and can recover all of its economic costs as they are incurred, then the firm cannot suffer a deregulatory taking if the state removes entry controls. The foundation for compensation for stranded costs is the regulated firm’s substantial *irreversible* investment in facilities to discharge its regulatory obligation to serve. In the language of contract law, the basis for compensating stranded costs is detrimental reliance, as manifested in the firm’s irreversible investment to perform the contract. Without such objectively verifiable reliance on the part of the regulated firm, there can be no deregulatory taking.

Here we have the basis for distinguishing open-access regulation in network industries from, say, the abolition of entry controls for taxicabs in New York City. One might plausibly argue that taxi companies entered into a regulatory contract with the city: they received

⁹⁰ Id. at 577.

⁹¹ By emphasizing the existence of a regulatory contract, we do not mean to imply that stranded costs could not be recovered under an equitable theory of promissory estoppel in the absence of a showing that the regulator and the utility had formed a contract. We would expect that many utilities would be able to prove to a court that they had enforceable regulatory contracts. Moreover, we would expect as a practical matter that the evidentiary showing necessary for a utility to prove the existence of a regulatory contract would not be substantially more demanding than the showing necessary to establish the utility’s right to compensation under the doctrine of promissory estoppel.

entry regulation in return for submitting to rate regulation and the public service obligation to carry any passenger to any neighborhood in New York, no matter how rough it might be. Even so, taxicabs currently bearing medallions in New York are not irreversible investments. To the contrary, they are inherently mobile assets that can be redeployed for the same use in another city or in a different use in New York. Moreover, a fleet of taxicabs is divisible; it does not have the "lumpiness" of an integrated network for the provision of electricity or local telephony. To only a slightly lesser extent the same points regarding reversibility of investment are true of the garage and radio communications investments of the taxicab company. (Indeed, some entrepreneurs have become rich redeploying the specialized mobile radio frequencies used for the dispatching of taxicabs to higher-valued forms of digital mobile communications.⁹²) In short, one can reach either of two conclusions that have essentially the same economic and legal significance: (1) taxicab regulation in New York City is not a regulatory contract because it does not induce investment that is irreversible and transaction-specific, or (2) such regulation does establish a regulatory contract, but one that can give rise to only negligible stranded costs because the firm's capital can be so thoroughly and immediately redeployed for alternative uses. The degree of asset specificity is low; hence the firm's opportunity to mitigate stranded costs is great. If one prefers the second interpretation, it is important not to succumb to the incorrect argument that, so too, the transmission and distribution network of an electric utility or the loops and switches of a LEC are thoroughly and immediately redeployed when used on an unbundled or wholesale basis by a competitor. The grant of substantially more taxi medallions by New York City, like the award by the Federal Communications Commission of substantially more spectrum licenses, dissipates the rents that can be earned by existing holders of medallions or licenses; but such expansion of supply by government fiat is not the same as mandatory unbundling. The award of more medallions does not compel Yellow Cab to make its taxicabs available to Checker Cab at wholesale rates. The elimination of government restrictions on capacity is not the same as the government's order that existing capacity be made available to the incumbent's competitors for use as an input in the supply of an end product.

Thus, a related aspect of investment-backed expectations is that the regulated capital of the incumbent firm not be rededicated to a

⁹² See, e.g., Leslie Helm, *Fleet Thinking Helps Tiny Nextel Make Big Waves*, L.A. Times, Dec. 5, 1993, at D1 (reporting how Nextel, a communications company, transformed its radio dispatch system into a "national mobile-phone service").

public purpose other than the one to which shareholders originally intended. If the regulator or legislature has redefined the public purpose to which the incumbent firm's private property shall be dedicated, then the Supreme Court's decision in *Northern Pacific Railway Co. v. North Dakota*⁹³ requires that compensation be paid to the firm for any diminution in its ability to recover the costs of, and return on, its invested capital.⁹⁴ Put differently, the government cannot erase the investment-backed expectations of a regulated firm's shareholders by redefining the public purpose to which they dedicated their capital.

Although investment-backed expectations provide the standard for objectively verifying the need for stranded cost recovery, that criterion does not imply that the calculation of compensation should be based on an appraisal of the assets in the deregulated environment. As we showed in our previous article, the correct basis for compensation for breach of the regulatory contract is the change in the firm's expected net earnings from its *regulated* assets.⁹⁵

3. *Elimination of Regulatory Barriers to Entry*

By definition, deregulation that eliminates regulatory entry barriers is a third necessary condition for a deregulatory taking. The regulatory authority must have taken some action that removes regulatory control of entry into the utility's franchise territory in such a way that eliminates revenue protections for the firm. The utility then faces increased competition as a result of the removal of regulatory entry constraints, or through the regulator's grant to other firms of permission to enter through the issuance of certificates of public convenience and necessity.

In contrast, removing other types of regulatory restrictions on utilities, such as relaxation of constraints on pricing flexibility or the elimination of service obligations, does *not* suggest the need for cost recovery. Such actions do not diminish the earnings of the incumbent utility. To the contrary, they are likely to enhance the utility's earnings. Thus, although such constraints are part of the regulatory contract, they are not the *benefits* of the bargain from the perspective of the regulated firm. Rather, they are burdens that the regulated firm would gladly avoid. Consequently, no compensation is required when the regulator removes them.

Furthermore, most types of deregulation cannot form any part of the basis of a taking under the theory that we have developed in our

⁹³ 236 U.S. 585 (1915).

⁹⁴ See *id.* at 595, 604.

⁹⁵ See *Deregulatory Takings*, *supra* note 1, at 918-28.

previous article. For example, the removal or relaxation of environmental regulations, or changes in rules concerning product or workplace health and safety, are exercises of the police power that would not seem to provide grounds for a deregulatory taking action, even if a company had relied on those rules remaining in place when it invested in equipment to comply with the rules.

4. *Decline in Expected Revenues*

The fourth and final necessary condition for a company to recover stranded costs is that its expected revenues must decline when deregulation opens the market to competition: the change in expected revenues net of mitigation, which we have denoted as Δ^* in our previous article,⁹⁶ must be positive. If instead the company, using formerly regulated assets, experiences gains under competition that offset losses in regulated services, then there is no basis for recovery. That result would include any deregulatory "givings" of the sort that Part III discussed.

One must carefully scrutinize the offsetting gains to the firm that purportedly flow from deregulation, however. The company's earnings from investments that were never treated as part of the regulatory rate base should not be considered to have mitigated its stranded costs. Regulatory authorities may be tempted to identify the company's profits from its unregulated activities as a potential source of stranded cost recovery. The reason advanced for such an action is that the formerly regulated company benefits from new competitive opportunities in the market due to deregulation. Such reasoning is flawed, however, because the company's benefits from the newly deregulated market are by no means a "gift" conferred on it by the regulatory commission, even if the company is allowed to enter the market by removal of a regulatory quarantine. Instead, a company's earnings in deregulated markets are simply a return of, and on, the capital invested in those markets. Such investments are not included in the rate base; in regulatory parlance, they are "below the line." The company assumes all the risk of loss on such investments in competitive markets and consequently is entitled to the full returns earned from those investments. For the regulator to appropriate the returns to such investment to pay for the recovery of stranded costs or to subsidize continuing regulatory obligations would itself constitute a taking. The capital invested in unregulated markets is private property that the firm has never dedicated to *any* public purpose. To count the return of, and on, such capital toward the recovery of stranded costs would

⁹⁶ See *Deregulatory Takings*, supra note 1, at 923.

be tantamount to the regulator's conscripting private property for dedication to a public purpose to which the owners of the property never consented.

As a general proposition, deregulation that primarily involves the lifting of price controls, such as housing rent control or natural gas field prices, does not create a deregulatory taking. After such deregulation, companies can adjust prices in response to market competition, and prices more closely reflect supply and demand conditions. Even if the ultimate result of competition is falling prices, as occurred in natural gas, the reductions in revenues should not be interpreted as a taking.

B. *Regulatory Contracts, Statutory Gratuities, and State-Managed Cartels*

The regulatory contract is a bargained-for exchange between the state and individual firms that is intended to benefit consumers. That relationship between the private firm and the state differs fundamentally from the relationship that frequently exists when, as in the notorious case of the California raisin cartel given state-action immunity from the federal antitrust laws in *Parker v. Brown*,⁹⁷ the state or federal government confers a statutory gratuity on a firm or permits (or even encourages) the government's use of its regulatory prerogatives to cartelize an industry and shield private firms from the antitrust liability that would otherwise arise from such horizontal coordination on decisions concerning pricing and output.⁹⁸ Far from benefiting consumers, a state-managed cartel of that sort harms them. In 1991 the Supreme Court was asked to lift antitrust immunity to state-managed restraints of trade in cases in which the state action creating those restraints resulted from a conspiracy against consumers or competitors into which public officials and private actors had entered. Justice Scalia, writing for the Court, refused to extend the antitrust laws to reach such conduct:

Few governmental actions are immune from the charge that they are "not in the public interest" or in some sense "corrupt." The

⁹⁷ 317 U.S. 341 (1943).

⁹⁸ See, e.g., *FTC v. Tigor Title Ins. Co.*, 504 U.S. 621, 639-40 (1992); *City of Columbia v. Omni Outdoor Adver., Inc.*, 499 U.S. 365, 384 (1991); *324 Liquor Corp. v. Duffy*, 479 U.S. 335, 342 (1987); *Southern Motor Carriers Rate Conference v. United States*, 471 U.S. 48, 65 (1985); *Hoover v. Ronwin*, 466 U.S. 558, 573 (1984); *California Retail Liquor Dealers Ass'n v. Midcal Aluminum, Inc.*, 445 U.S. 97, 103 (1980); *Bates v. State Bar*, 433 U.S. 350, 359 (1977). Similarly, the antitrust laws do not constrain the sincere attempts of private actors to petition government to crush their competitors. See, e.g., *United Mine Workers v. Pennington*, 381 U.S. 657, 668-69 (1965); *Eastern R.R. Presidents Conference v. Noerr Motor Freight, Inc.*, 365 U.S. 127, 136 (1961).

California marketing scheme at issue in *Parker* itself, for example, can readily be viewed as the result of a "conspiracy" to put the "private" interest of the State's raisin growers above the "public" interest of the State's consumers. The fact is that virtually all regulation benefits some segments of the society and harms others; and that it is not universally considered contrary to the public good if the net economic loss to the losers exceeds the net economic gain to the winners.⁹⁹

If the state faces no obligation under federal antitrust law to compensate losers when it restrains trade and reduces consumer welfare for the purpose of transferring wealth to a favored constituency, then surely the state need not compensate winners when it subsequently reverses course and terminates the statutory gratuity or state-managed cartel. To be sure, the private firms that benefited from the prior state of affairs will have lost an economic expectation. That expectation may have even led to some measure of irreversible investment. The grapevines that bore the cartelized raisins in *Parker v. Brown* obviously could not be moved and would have had value in a competitive market only to the extent that the market price of grapes or raisins exceeded the incremental cost of production. It bears emphasis, however, that the expectation held by members of a state-managed cartel is entirely different from the expectation of a regulated utility, which is rooted in the law of contract and property and predicated on the recovery of the cost of transaction-specific investment made to discharge a public purpose. Thus, the state's decision to terminate or interfere with the expectation of a formerly state-sanctioned cartel, even an investment-backed expectation, would not support a claim for breach of a regulatory contract or for a deregulatory taking. That distinction helps to clarify the meaning of the four limiting principles for stranded cost recovery, and it will help to reconcile our theory of stranded cost recovery with the actual outcomes in other industries that have experienced deregulation.

"No person," wrote Justice Pitney in 1917 in *New York Central Railroad v. White*,¹⁰⁰ "has a vested interest in any rule of law entitling him to insist that it shall remain unchanged for his benefit."¹⁰¹ In regulatory proceedings concerning the unbundling of network industries, that proposition is cited more frequently than it is understood. No serious student of the issue would assert that the regulatory contract entitles the regulated utility to insist that the law shall remain unchanged for the firm's benefit. Rather, that contract—to paraphrase

⁹⁹ *Omni Outdoor Adver.*, 499 U.S. at 377.

¹⁰⁰ 243 U.S. 188 (1917).

¹⁰¹ *Id.* at 198.

Justice Holmes's famous aphorism about contracts generally and damages for breach of contract—merely entitles the regulated utility to the payment of damages if the state chooses to breach the contract.¹⁰² As Judge Posner has recognized, there is the fundamental symmetry between the logic underlying Holmes's observation and the proposition that the government avoids a taking by paying just compensation for its changes in regulation:

The essence . . . of a breach of contract is that it triggers a duty to pay damages for the reasonably foreseeable consequences of the breach. If the duty is unimpaired, the obligation of the contract cannot be said to have been impaired. In Holmes's vivid formulation, the obligation created by a contract is an obligation to perform or pay damages for nonperformance, and if the second alternative remains, then, since it is an alternative, the obligation created by the contract is not impaired. The analogy to the principle that government does not violate the takings clause if it stands ready to pay compensation for its takings should be evident.¹⁰³

Judge Posner's insight applies directly to deregulatory takings and breach of the regulatory contract. It is up to the state to decide whether to exercise its police power in a manner that abrogates the regulatory contract, subject to the resulting obligation to compensate the utility for its lost expectation of cost recovery. The existence of a regulatory contract thus clarifies the distinction between the Takings Clause and the state's police power to impose or remove entry regulation.

Our conclusion that breach of the regulatory contract obligates the state to compensate the regulated firm is entirely congruent with the well established principle in constitutional law that the termination of statutory gratuities, such as welfare and pension rights, are not compensable under the Takings Clause.¹⁰⁴ Such relationships be-

¹⁰² See Oliver Wendell Holmes, *The Path of the Law*, 10 Harv. L. Rev. 457, 462 (1897) ("The duty to keep a contract at common law means a prediction that you must pay damages if you do not keep it—and nothing else.").

¹⁰³ *Horwitz-Matthews, Inc. v. City of Chicago*, 78 F.3d 1248, 1251 (7th Cir. 1996) (citations omitted).

¹⁰⁴ See *Bowen v. Gilliard*, 483 U.S. 587, 604-05, 607 (1987) (finding that diminution in benefits received from the Aid to Families with Dependent Children program did not constitute a taking); *United States R.R. Retirement Bd. v. Fritz*, 449 U.S. 166, 174 (1980) (holding that railroad benefits "may be altered or even eliminated at any time"); *Lynch v. United States*, 292 U.S. 571, 576-77 (1934) (finding that gratuities such as pensions, compensation, allowances, and privileges may be withdrawn at any time, but contracts such as War Risk Insurance policies are vested rights); *United States v. Teller*, 107 U.S. 64, 63 (1882) (holding that there is no vested legal right to pensions and that Congress can change pension provisions at its discretion); *Hoffman v. City of Warwick*, 909 F.2d 603, 616-17 (1st Cir. 1990) (holding that enhanced seniority benefits are not property rights and not protected by Takings Clause).

tween the state and private parties do not seem to rise to the level of a contract, even though those relationships doubtless induce some degree of detrimental reliance by private parties and thus might sustain a claim for recovery predicated on promissory estoppel. There is no obvious consideration flowing from the recipient of such benefits to the state, as there is in the case of a public utility, which accepts an obligation to serve all customers in its area at regulated rates. In short, a deregulatory policy that eliminated entry barriers that gratuitously benefited a particular business or industry would not produce a deregulatory taking.

The presence of maximum rate regulation clarifies another basis for distinguishing regulatory changes that would necessitate the payment of compensation from those that would not. Although the imposition of price controls can be problematic because they remove the opportunity to earn returns for businesses, the *elimination* of such controls, by itself, cannot indicate a deregulatory taking. To the contrary, the lifting of price regulation unambiguously benefits the regulated firm—unless, of course, such regulation facilitated collusion and generated supracompetitive returns for the very firms that ostensibly were being regulated in the public interest.¹⁰⁵ In an oligopolistic market (as opposed to a purely monopolistic one), tariffing requirements (which require advance posting and approval of price changes before they may take effect), price floors, and regulatory standardization of product quality and other nonprice attributes can all facilitate explicit or tacit collusion among regulated firms. Indeed, the justification for such regulation in a market populated by multiple firms is inherently suspicious on economic grounds. In such circumstances, the regulatory body functions as the cartel manager. Classic examples of such regulatory perversion include the Civil Aeronautics Board's past regulation of airlines' routes and fares and the Interstate Commerce Commission's regulation of interstate trucking.

To identify the limits on stranded cost recovery, it is critical to comprehend the difference between the regulatory contract and the entirely different phenomenon of cartelization by regulation. In his comment on our earlier article, Judge Williams posed the following questions concerning the potential recovery of stranded costs by a third party who purchases a taxi franchise, which then is subject to the elimination of entry regulation:

[Sidak and Spulber] set forth the existence of a franchise as a limit to their proposal, but also seem ready to embrace franchises generally, i.e., to see franchises as manifesting the sort of regulatory bar-

¹⁰⁵ See MacAvoy, *supra* note 83.

gain that calls for their solution. What of taxi franchises, held now *not* by the original rent-seekers but by people who have bought their franchises at market rates, i.e., rates that capitalized the value of the artificially created scarcity? Those purchases were transfer payments induced by regulation. Must the state provide compensation for losses in franchise value that will flow from any increase in the number of taxi franchises? Perhaps compensation should be excluded here because the medallion owners' payments have been made *outside* the system, somewhat like the payments by which particular investors in a utility become stockholders, as opposed to the investments of the utility itself (just as, today, a firm purchasing a regulated utility does not get a stepped-up "rate base" merely by paying more than book value for the firm's assets). Or perhaps compensation should be denied on the ground that such purchasers were obviously buying the capitalized value of prior rent-seeking, and thus, the argument would run, an asset that is not only self-evidently hazardous but one of questionable social utility.¹⁰⁶

We agree with Judge Williams's intuition that the losses that a third-party buyer of a taxi franchise experiences upon deregulation should not be considered compensable stranded costs. We do not quarrel with Judge Williams's grounds for distinguishing the taxi medallion case from the case of the mandatory unbundling of the electricity and local telephony industries. But we believe that our second criterion—that investment-backed expectations be based on the deployment of irreversible capital—is sufficient to distinguish the case, provided that we clarify the criterion in one respect: the irreversible investment cannot consist solely of a franchise right to receive supracompetitive returns. That qualification helps to distinguish the taxicab example from the regulatory contracts in electric power and local telephony, which were formed in the late 1800s and early 1900s in response to the need of municipalities to induce private investors to make asset-specific investments in network infrastructure. The regulation of taxicabs, in contrast, was directed at industries with far lower levels of asset specificity. As we noted earlier, taxicabs are inherently mobile assets that can be immediately redeployed to other uses and other geographic markets. (The same is true, of course, of airplanes, trucks, ferries, ships, and railroad rolling stock.¹⁰⁷) The problems of

¹⁰⁶ Williams, *supra* note 3, at 1004–05 (footnote omitted).

¹⁰⁷ In 1930, for example, the Supreme Court of California affirmed the regulator's grant to an entrant of a certificate of public convenience and necessity to provide ferry service across San Diego Bay, notwithstanding the incumbent's recent purchase of an expensive, new ferryboat. See *San Diego & Coronado Ferry Co. v. Railroad Comm'n*, 292 P. 640 (Cal. 1930). That result is consistent with our limiting principles because a ferryboat is inherently mobile. A firm that no longer needs a ferry in San Diego can readily shift the asset to San Francisco, Seattle, or Vancouver.

inducing investment and of credibly committing the regulator not to act opportunistically once the firm has made nonsalvageable investments do not exist to the same degree in the taxicab industry—or in airlines, trucking, and other regulated industries—relative to the situation in the electric power and local telephony industries. That fundamental economic difference corresponds to a fundamental historical difference. The use of regulation to cartelize competitive industries largely occurred during the New Deal,¹⁰⁸ well after investors had already supplied the affected industries with the requisite capital to commence production of their services.

It is true that a subsequent buyer of a taxi medallion cannot mitigate the loss in value of that franchise if the regulator permits firms to expand aggregate supply in the market. But the asset that the buyer acquires is a specialized, irreversible investment *only* in the sense that it embodies the naked demand that the law not change to the detriment of the franchise holder. As Justice Pitney observed, no one has a vested right of that sort. A simple rule of thumb is that the government owes no compensation for changes in regulatory policy that expand output and lower price while preserving the ability of the incumbent firm to recoup the costs of irreversible investments in infrastructure and other essential or government-mandated inputs.

C. *The Deregulatory Experience in Other Network Industries*

We have set forth four conditions that appear to be both necessary and sufficient for a deregulatory taking: the existence of a regulatory contract, evidence of investment-backed expectations, the elimination of regulatory entry barriers, and a decline in expected revenues. The analysis in our preceding article indicates that those conditions apply to the deregulation of local exchange telecommunications and electric power. To determine the general applicability of our limiting principles, we consider briefly the deregulation of several other network industries where those four conditions either do not apply or apply only to a limited extent: private municipal railways, airlines, and railroads. We also examine the AT&T divestiture. Finally, we examine the policies of the Federal Energy Regulatory Commission (FERC) concerning open-access transportation of natural gas and mandatory wholesale wheeling of electricity. We consider whether our conditions allow a determination of whether or not a deregulatory

¹⁰⁸ See, e.g., Richard A. Posner, *Economic Analysis of Law* § 24.1, at 628 (4th ed. 1992) (criticizing New Deal regulations that cartelized industries).

taking occurred; we further consider how policymakers and the companies involved addressed the regulatory transition.

1. *Private Municipal Railways*

The demise of privately owned municipal railways during the first half of the twentieth century presented the question of stranded cost recovery, although the judicial discussion of the issue did not use such terminology. As we noted in Part II, the Supreme Court's 1945 decision in *Market Street Railway Co. v. Railroad Commission of California*¹⁰⁹ affirmed a state rate decision that the Court recognized would not permit the owner of the municipal railway to recover the cost of its investment.¹¹⁰ That outcome is consistent with the limiting principles that we propose here. Market Street Railway's sunk costs became unrecoverable because of changing economic and technological forces that were making privately owned municipal railways obsolete and infeasible. The elimination of regulatory entry barriers into the municipal railway industry was not the cause of the regulated firm's inability to recover its costs. Nor was cost recovery rendered impossible by a new regulatory mandate to unbundle the incumbent firm's network for use by competitors.

Opponents of stranded cost recovery in network industries such as local telephony and electric power often quote the Court's observation in *Market Street Railway* that, although "[t]he due process clause has been applied to prevent governmental destruction of existing economic values," that constitutional provision "has not and cannot be applied to insure values or to restore values that have been lost by the operation of economic forces."¹¹¹ That statement, however, is entirely compatible with our own limiting principles for stranded cost recovery. If "governmental destruction of existing economic values" results from breach of the regulatory contract, then it is emphatically *not* the case that economic values "have been lost by the operation of economic forces." The government's promise to allow a regulated firm the reasonable opportunity to achieve sufficient earnings to recover its invested capital and to earn a competitive return on it is a promise that presumes that sufficient market demand will continue to exist for the service produced by the firm, at least over the useful life of the physical capital employed to provide that service. Exogenous factors may cause demand for the regulated service to collapse before the firm has achieved full capital recovery; but, absent explicit evidence to

¹⁰⁹ 324 U.S. 548 (1945).

¹¹⁰ *Id.* at 553-54.

¹¹¹ *Id.* at 567.

the contrary, we would assume that that particular risk is not one that the government assumed under the regulatory contract. Therefore, the fact that the regulated firm may not invoke the Constitution to compel the government to ensure full recovery of costs that exogenous market forces have made unrecoverable in no way negates the conclusion that, when the government has breached the regulatory contract, the regulated firm may indeed invoke the Constitution to compel full recovery of the costs that are consequently stranded.

Surely in the electric power and local telecommunications industries there is no realistic expectation today that demand for use of the incumbent's network will collapse in the manner that demand for use of the Market Street Railway did by World War II. To the contrary, there will be a continuing need to invest in the local exchange network and the transmission and distribution network of the incumbent electric utility to accommodate the expected increase in demand. Electric utilities and LECs will need to return repeatedly to the capital markets to finance the investment needed to provide the network capacity to serve the higher levels of expected demand. It is therefore not the case, as it was for Market Street Railway in 1945, that the LEC or electric utility today is "a company whose financial integrity already is hopelessly undermined, which could not attract capital on any possible rate, and where investors recognize as lost a part of what they have put in."¹¹²

In short, the costs that were unrecoverable in *Market Street Railway* were not, strictly speaking, stranded costs because they were not rendered unrecoverable by a change in regulation that breached the existing regulatory contract. A regulator in 1945 could no more ensure the recovery of Market Street Railway's costs in the face of dwindling demand than it could force automobile and bus commuters to revert to travel by horse-drawn buggy.¹¹³

2. *Airline Deregulation*

Airline deregulation does not satisfy the criteria for a deregulatory taking. A brief review of the opening of airline markets helps

¹¹² *Id.* at 566.

¹¹³ For similar reasoning concerning the collapsing demand for steam service, see *Rochester Gas & Electric Corp. v. Public Service Commission*, 488 N.Y.S.2d 303, 304-05 (App. Div. 1985). For a similar decision concerning a natural gas company that experienced a massive decline in demand for throughput due to "economic conditions in the market . . . [that] could hardly have been less propitious," see *Proceeding on Motion of the Commission as to the Minor Rate Filing of Finger Lake Gas Co. to Increase Its Annual Gas Revenues by \$99,999, or 24.0%*, Case 93-G-0885, 1994 N.Y. PUC LEXIS 40, at *7 (N.Y. Pub. Serv. Comm'n Nov. 21, 1994).

to clarify the limits of the takings argument.¹¹⁴ Formal airline regulation did not begin until the passage of the Civil Aeronautics Act of 1938,¹¹⁵ which created the Civil Aeronautics Board (CAB). The CAB oversaw entry restrictions, route assignments, and prices. Airline regulation continued for over four decades until the passage of the Airline Deregulation Act of 1978,¹¹⁶ which opened the passenger airline markets, with the eventual sunset of the CAB in 1984.¹¹⁷ Deregulation of the airlines brought about the elimination of entry barriers and a decline in the expected revenues of the airlines, thus satisfying two of our four criteria for the recovery of stranded costs. Airline deregulation cannot be characterized as a government taking, however, because of the limited nature of the regulatory contract and the weak evidence of investment-backed expectations.

The CAB exercised entry controls and denied seventy-nine entry applications between 1950 and 1974.¹¹⁸ The CAB imposed some obligations to serve by controlling the abandonment of routes. Although CAB oversight had some of the earmarks of a regulatory contract, that oversight fundamentally differed from utility regulation. Despite entry and route restrictions, some competition between incumbent airlines continued under regulation. Ratemaking set fares across markets rather than on an individual route basis, and it created a pattern of subsidizing short hauls by above-cost fares on long hauls. In over forty years of CAB control, there were only two brief periods of utility-style ratemaking. In 1956, as the major carriers began a costly program of purchasing jet aircraft, the CAB instituted its General

¹¹⁴ On the economic consequences of airline regulation, see generally Stephen Breyer, *Regulation and Its Reform 197-221* (1982); George W. Douglas & James C. Miller III, *Economic Regulation of Domestic Air Transport: Theory and Policy* (1974); *Regulation of Passenger Fares and Competition Among the Airlines* (Paul W. MacAvoy & John W. Snow eds., 1977).

¹¹⁵ Ch. 600, 52 Stat. 973 (1938). Congress substantially reenacted the 1938 legislation in the Federal Aviation Act of 1958, Pub. L. No. 85-726, 72 Stat. 731.

¹¹⁶ Pub. L. No. 95-504, 92 Stat. 1705.

¹¹⁷ There is a large literature on the economics of airline deregulation. See, e.g., *Airline Deregulation: The Early Experience* (John R. Meyer & Clinton V. Oster, Jr. eds., 1981); Elizabeth E. Bailey et al., *Deregulating the Airlines* (1985); John R. Meyer & Clinton V. Oster, Jr., *Deregulation and the Future of Intercity Passenger Travel* (1987); John R. Meyer & Clinton V. Oster, Jr., *Deregulation and the New Airline Entrepreneurs* (1984); Steven A. Morrison & Clifford Winston, *The Economic Effects of Airline Deregulation* (1986); Steven A. Morrison & Clifford Winston, *The Evolution of the Airline Industry* (1995); Elizabeth E. Bailey & Jeffrey R. Williams, *Sources of Economic Rent in the Deregulated Airline Industry*, 31 *J.L. & Econ.* 173 (1988); Michael E. Levine, *Airline Competition in Deregulated Markets: Theory, Firm Strategy, and Public Policy*, 4 *Yale J. on Reg.* 393 (1987).

¹¹⁸ See Daniel P. Kaplan, *Case 2: The Changing Airline Industry, in Regulatory Reform: What Actually Happened* 40, 72 n.10 (Leonard W. Weiss & Michael W. Klass eds., 1986).

Passenger Fare Investigation of 1960.¹¹⁹ The other ratemaking exercise occurred in 1970 with the five-year Domestic Passenger Fare Investigation that led to a reduction of airline price discounts.¹²⁰ The investigation determined an *industry revenue requirement* based on a reasonable rate of return, *industry* rate base, prudence review of investment, and fixed industry load factor.¹²¹ The CAB's brand of managed competition differed substantially from the complex rate-of-return regulation traditionally found in the electric and telephone utilities. Because the CAB suppressed some forms of price competition while allowing others such as discounts, the CAB's pricing policies were applied across the board rather than being tailored to the capital costs and operating costs of individual airlines, as would be the case with utility regulation.

Airline fare regulation was more a cartel-like coordination mechanism than a contractual approach to procuring services from a firm arguably exhibiting the characteristics of natural monopoly. According to Justice Breyer, writing as a Harvard professor in 1982, "The problem of high fares was essentially a problem of low load factors, which reflected excessive scheduling, which in turn resulted from CAB action that inhibited price competition."¹²² Justice Breyer observed that although the statute did not forbid price cutting and price competition, the CAB limited such competition, because it eschewed rate hearings and instead pursued a policy of negotiation and private meetings.¹²³ The U.S. Court of Appeals for the D.C. Circuit eventually held those informal meetings to be unlawful.¹²⁴ That type of cartelistic procedure cannot be justified as a regulatory contract, for it is antithetical to the welfare of consumers.

What were the economic effects of deregulation on the airlines? In any regulated industry, regulated firms make investments based on their expectations about future regulation and deregulation. The extent to which airline investors were deprived of their investment-backed expectations, however, was limited. There is no question that the capital equipment of the airlines was not well adapted for competition.¹²⁵ The choice of aircraft was better suited for point-to-point service than the hub-and-spoke service that was to emerge with dereg-

¹¹⁹ 32 C.A.B. 291 (1960); see also Richard H.K. Vietor, *Contrived Competition: Regulation and Deregulation in America* 38 (1994).

¹²⁰ Civil Aeronautics Board, *Domestic Passenger-Fare Investigation: January 1970 to December 1974* (1976); see also Breyer, *supra* note 114, at 211-12.

¹²¹ See Breyer, *supra* note 114, at 211.

¹²² *Id.* at 210.

¹²³ See *id.* at 211.

¹²⁴ See *Moss v. Civil Aeronautics Bd.*, 430 F.2d 891, 901 (D.C. Cir. 1970).

¹²⁵ See Vietor, *supra* note 119, at 61.

ulation. The airlines had to reconfigure their fleets of aircraft to adapt to new route structures and the effects of competition on load factors. Moreover, additional investment in gates and terminals was required to update or replace existing ground facilities. Despite the fact that the capital investment undertaken by the airlines before deregulation was not well adapted for competition in the ways described above, their investment differed in a significant respect from the investment in other network industries, such as electric power transmission and local telephony. Like the investment in taxicabs in New York City, the investment in aircraft before deregulation was not market-specific. Airplanes have been called "capital with wings," and the airlines were able to redeploy some airplanes to other routes for which they were better suited and to realize some scrap value by resale into other markets. Moreover, the capital investment in aircraft has a shorter economic life than that of investment in utility plants and equipment, given aircraft lives and technological change in air travel.

Most airlines suffered substantially reduced earnings in the aftermath of deregulation. Two major carriers, Braniff and Continental, went bankrupt. Some of those effects were due to high oil prices that coincided with deregulation, although incumbent airlines also felt the effects of high labor costs under contracts entered into before deregulation. It is difficult to discern, however, whether the declines in earnings were already expected by the time that deregulation occurred. Certainly, the financial impacts of deregulation were mitigated by removing any regulation that would hinder the incumbents. The CAB eliminated service obligations on the incumbent airlines, allowed them to abandon routes and change the time of individual flights, and lifted price controls so that the airlines could adjust fares to meet the competition.

3. *Railroad Deregulation*

Railroad regulation was the first major federal regulation of industry. Regulation of the railroads began in 1887 with the Interstate Commerce Act,¹²⁶ which established the Interstate Commerce Commission (ICC). The Railroad Revitalization and Regulatory Reform Act of 1976¹²⁷ was an initial attempt at railroad deregulation that left many regulatory controls in place. Railroads were substantially der-

¹²⁶ Interstate Commerce Act, ch. 104, 24 Stat. 379 (1887). On railroad regulation, see *Railroad Revitalization and Regulatory Reform* (Paul W. MacAvoy & John W. Snow eds., 1977).

¹²⁷ Pub. L. No. 94-210, 90 Stat. 31 (codified as amended in scattered sections of 15, 31, 45, 49 U.S.C. (1994)).

regulated by the Staggers Rail Act of 1980¹²⁸ and by the sunset of the ICC at the end of 1995 and its replacement by the Surface Transportation Board within the Transportation Department,¹²⁹ which continues oversight of railway rates.

Railroad regulation imposed substantial financial costs on the railroad industry. Railroads faced increasing competition from trucking, air transport, pipelines, and barges. The regulated rate structure of railroads constrained their pricing flexibility and created rates that were not competitive. The setting of across-board-rates by regulators severely constrained the rate-setting ability of individual railroads. Freight rates involved a complex system of cross-subsidies between shippers, subsidies that could not be sustained in the presence of intermodal competition. Moreover, restrictions on abandonment forced the railroads to maintain unprofitable routes. Other regulations restricted the types of services that railroads could offer and constrained their entry into trucking. Regulation also controlled the ability of railroads to merge with one another. Limits on end-to-end mergers prevented carriers from achieving efficiencies from vertical integration that would have addressed the high transactions costs of forwarding shipments from one carrier to another. Limits on mergers, both parallel and end-to-end, constrained the efficiency gains from consolidation of duplicate facilities. Against that background of incumbent burdens, a number of railroads, including the Penn Central, went bankrupt.¹³⁰

The Staggers Rail Act and ICC decontrol gave the railroads increased ability to adjust freight rates, loosened restrictions on "piggy-back" traffic of containers, and authorized contracting with shippers.¹³¹ By freeing railroads from restrictions on rates, abandonments, and mergers, deregulation has allowed railroads to adapt their prices to market forces by rebalancing rates. Mergers have created more efficient and financially stronger carriers. The Chessie System and Seaboard Coast Line merged to form CSX in 1980; the Burlington Northern merged with the Santa Fe; and the Union Pacific merged

¹²⁸ Pub. L. No. 96-448, 94 Stat. 1895 (codified as amended in scattered sections of 11, 45, 49 U.S.C. (1994)).

¹²⁹ See ICC Termination Act of 1995, Pub. L. No. 104-88, 109 Stat. 803 (codified as amended in multiple titles of U.S.C. (1994)).

¹³⁰ The bankrupt railroads included the Erie Lackawanna, the Lehigh & Hudson, the Central of New Jersey, the Lehigh Valley, and the Reading. See Agis Salpukas, *Born in Crisis, Conrail Defies Skeptics with Turnaround*, N.Y. Times, Oct. 16, 1996, at D8.

¹³¹ See Thomas Gale Moore, *Case 1: Rail and Trucking Deregulation*, in Weiss & Klass, *supra* note 118, at 14, 23-24.

with both the Southern Pacific and the Chicago and North Western Transportation Company.¹³²

The federal regulation of railroads with control of entry, rate regulation, and obligations to serve that include common carrier regulations and restrictions on abandonments, was indeed a form of regulatory contract. But it was a regulatory contract that differed from the individually tailored state regulation of electric and natural gas utilities and of LECs. The unchanging terms of the regulatory contract for railroads became increasingly onerous and outdated over a century of regulation, in large part owing to exogenous technological change and intermodal competition. Consequently, it became mutually beneficial for regulators, railroads, and shippers to renegotiate or simply terminate the regulatory contract. Certainly, the expenditures for railroad trackage and rolling stock manifested investment-backed expectations. But the same could be said of the trackage and rolling stock of the Market Street Railway in the early 1940s. Investment-backed expectations by themselves do not establish that it is the regulator's action—and not some exogenous force—that has upset those expectations. Continuation of railroad regulation would have meant further financial difficulties for the incumbent railroads and additional increases in their cost of capital.

Put differently, the elimination of regulatory barriers to entry was not a significant issue in railroad deregulation. Railroads already faced competition from other modes of transportation.¹³³ As evidenced by the series of rail mergers that followed deregulation, the rail industry itself sought to reduce and consolidate capacity. Railroad deregulation did not cause expected revenues to fall. Exogenous forces of intermodal competition did. To the contrary, railroad deregulation conferred pricing flexibility that allowed revenues to increase or mitigated their decline. In short, the deregulation of railroads did not appear to produce stranded costs. It therefore did not constitute a deregulatory taking.

That conclusion does not necessarily answer, however, whether a *new* regulatory policy requiring a railroad to provide shippers access to unbundled elements of its rail network would cause a deregulatory taking today. Alfred E. Kahn, for example, has defended stranded cost recovery for LECs and electric utilities, but he has rejected the proposition put before the Surface Transportation Board in 1996 that

¹³² See *Rebuilding the Nation's Railroads*, J. Com., Jan. 6, 1997, at 18C; Barnaby J. Feder, *How Conrail Became a Hot Ticket*; Global Trade, *High Tech Lift Railroad "Basket Case,"* N.Y. Times, Nov. 1, 1996, at D1.

¹³³ See, e.g., *Eastern R.R. Presidents Conference v. Noerr Motor Freight, Inc.*, 365 U.S. 127 (1961).

railroads would suffer stranded costs if made to price unbundled access to bottleneck routes at (lower) local tariffed rates.¹³⁴ Railroads sought deregulation, Kahn reasoned, and through such policy reform have avoided the continuation of incumbent burdens of the sort borne by the LECs and electric utilities:

The railroad industry . . . was deregulated more than 16 years ago, at the industry's own request. Railroads have since had the freedom to set discriminatory rates, to enter into transportation contracts free from government regulation and to abandon non-profitable segments and enter new ones, largely as they see fit, all without any overall cap on their earnings. Moreover, railroads were never subject to the sort of thorough regulatory oversight as continues to characterize the electric and telephone utilities.¹³⁵

The absence of mandatory cross-subsidies in current regulated rates is, in Kahn's view, another basis for distinguishing the case of railroads from that of LECs:

That continuing obligation to serve includes, at least in the telephone case, an obligation to charge rates to large bodies of customers below economically efficient levels and even below incremental costs, with the clear expectation of the companies being permitted to charge rates for other regulated services correspondingly above those levels. As I understand it, the railroads have been subject to no such obligations. The ceilings on the only railroad rates that continue to be capped—for services to captive shippers—far from being held below incremental costs, are set at the *maximum* level beyond which the shippers would be deprived of the benefits of economies of scale, density or scope.¹³⁶

In response, William J. Baumol and Robert D. Willig have argued that railroads also enjoy a regulatory contract, which would be breached by mandatory unbundling of bottleneck routes:

Contrary to Dr. Kahn's apparent understanding, railroads, too, have been subject to a regulatory compact that would be unravelled [sic] by the proposal advocated by Dr. Kahn. Investment has long been attracted to the railroads under the consistent understanding that only rates for end-to-end movements, and not rates for segments, would be regulated. (We are advised that the Supreme Court so stated in 1925 in *Louisville & Nashville R.R. v. Sloss-Sheffield Steel & Iron Co.*, and that the ICC repeatedly reaffirmed this point—for example, in a number of merger cases in the past decade.) On that

¹³⁴ See Verified Statement of Alfred E. Kahn at 7, 17-19, *Central Power & Light Co. v. Southern Pac. Transp. Co.*, 1996 STB LEXIS 358 (Surface Transp. Bd. Dec. 27, 1996) (Nos. 41242, 41295, 41626).

¹³⁵ *Id.* at 18.

¹³⁶ *Id.* (emphasis in original).

understanding, investors have committed vast sums to provide efficient *networks*, and not merely segments. That is no less a regulatory compact than those described by Dr. Kahn for the electricity and telephone industries. That compact was, of course, reinforced still further by the Staggers Rail Act of 1980, which directed the ICC to provide railroads the opportunity to attain revenue adequacy; and it was not changed by the ICC Termination Act of 1995.¹³⁷

Which of those two assessments is wrong? Neither, for in a sense the two opinions are talking past one another. Baumol and Willig do not agree with Kahn on the question of whether, before deregulation, railroads faced the same kind of regulatory contract as telephone companies and electric utilities. If Kahn is correct, then it follows even more forcefully that we are correct in concluding that the railroads did not suffer a deregulatory taking as the result of rail deregulation. But even if Baumol and Willig are correct, it is still possible for the reasons we have presented that the railroads suffered no deregulatory taking with rail deregulation.

But the resolution of that dispute concerning the regulatory contract circa 1980 would not shed light on whether, well after rail deregulation, a railroad would suffer stranded costs if it were forced to unbundle its network and to price its unbundled bottleneck routes at levels that would prevent the railroad from recovering all of its economic costs. Baumol and Willig in effect frame the following significant proposition about deregulatory takings: the fact that a network industry has completed a transition to a more deregulated status does not imply that the regulator may thereafter freely redefine the public purpose to which the firm's private capital has been dedicated. Deregulation, in other words, does not automatically suspend the constitutional protection of regulated property that the Supreme Court articulated in *Northern Pacific Railway*. Baumol and Willig correctly note that the Staggers Rail Act and the ICC Termination Act did not erase the investment-backed expectations of shareholders who supplied capital to provide consumers railroad *networks* rather than to provide shippers or other railroads access to unbundled rail *segments*. It should be obvious, moreover, that a subsequent round of railroad "deregulation" that took the form of mandatory unbundling would produce far different issues of stranded costs than did railroad deregulation in 1980, for such unbundling would diminish the revenues at-

¹³⁷ Response of William J. Baumol and Robert D. Willig to the Verified Statement of Alfred E. Kahn at 8, *Central Power & Light Co. v. Southern Pac. Transp. Co.*, 1996 STB LEXIS 358 (Surface Transp. Bd. Dec. 27, 1996) (Nos. 41242, 41295, 41626) [hereinafter Baumol-Willig STB Response] (citation omitted).

tainable from immovable trackage. Asset specificity and regulatory holdup would be a serious concern.

4. *The AT&T Breakup*

It is sometimes observed, as apparent support for the proposition that it is unnecessary for the state and federal governments to worry about stranded cost recovery, that the breakup of AT&T precipitated write-offs by that company for which it received no special opportunity for cost recovery. The comparison of the AT&T divestiture with the current form of unbundling taking place in the local telephony and electric power industries is inapt for numerous reasons.

First, the AT&T divestiture was not a regulatory action. It was an antitrust case prosecuted by the U.S. Department of Justice. A federal prosecutor is not a regulator exercising a broad mandate to promulgate myriad policies that advance the public interest. Rather, the Antitrust Division prosecutes violations of civil and criminal law. It was the federal government's contention that AT&T was acting *unlawfully* under existing legal standards. Indeed, Assistant Attorney General William F. Baxter believed that the successful conclusion of the AT&T litigation would *reduce* the need for regulation in the future.¹³⁸ The divestiture decree was not an attempt to modify the existing regulatory contract that AT&T had formed with the FCC and the state PUCs. Throughout the critical negotiations leading to the agreement between the government and AT&T to divest the local operating companies from the rest of AT&T's businesses, the Department of Justice kept the FCC uninformed of what was occurring.¹³⁹ Moreover, the culmination of those negotiations was a consent decree, which is essentially a contract between the government and a private defendant to settle a government enforcement action. AT&T remained free to spurn settlement and proceed to present its defense at trial, though the alternative may have been unappealing. AT&T freely chose not to do so.

Second, even if one prefers to view the AT&T litigation as a de facto form of regulation, it is nonetheless clear that the divestiture was the outcome of voluntary exchange. It resulted in a consent decree, which is a judicially enforceable contract between an antitrust defendant and the federal government. Charles L. Brown, chairman of AT&T, *wanted* to divest his local exchange companies in the belief

¹³⁸ See Gerald W. Brock, *Telecommunications Policy for the Information Age: From Monopoly to Competition* 164, 166 (1994); MacAvoy, *supra* note 83, at 20-24; Peter Temin, *The Fall of the Bell System: A Study in Prices and Politics* 282 (1987).

¹³⁹ See Temin, *supra* note 138, at 282.

that they were a stagnant business.¹⁴⁰ The attractive opportunities for AT&T, in Brown's estimation, lay in long-distance and in the ability to direct the substantial research and development capabilities of Bell Laboratories and Western Electric upon the computer industry.¹⁴¹ But a 1956 consent decree into which AT&T had entered to settle a previous federal antitrust prosecution forbade the company from entering the computer business.¹⁴² Brown therefore willingly offered to divest AT&T's local operating companies in return for having the 1956 decree vacated. In time, many errors became apparent in key assumptions that AT&T's managers held at the time of the divestiture concerning the future of the telecommunications industry and AT&T's ability to enter other product markets. AT&T failed to recognize the future role of wireless as a means of local access. By 1994, however, AT&T paid \$12 billion in stock to purchase McCaw Cellular Communications,¹⁴³ the nation's largest cellular telephone company. AT&T's management overestimated AT&T's potential in the computer industry. By October 1995, AT&T announced that it would voluntarily undergo another divestiture that would separate equipment manufacturing, long-distance services, and network services into three independent companies.¹⁴⁴ AT&T decided to reorganize, purportedly to transform itself into leaner, more aggressive companies better able to compete in the global telecommunications market.¹⁴⁵ In addition, AT&T announced that it would exit the computer business entirely. The framers of the divestiture had believed, of course, that by freeing AT&T to enter the computer business, the 1984 divestiture decree would enable AT&T to become a potent competitor of IBM. Instead, PC producers came to dominate the computer industry, and AT&T, even after its purchase of NCR, proved to be an ineffective competitor in a market characterized by low margins and very rapid product innovation.

Third, AT&T needed no compensation for being ordered to jettison its local operating companies, for they were *recipients* of cross-subsidies flowing from long-distance services. Starting in the mid-1960s, the FCC began using the "separations" process to assign an increasing share of common costs (known as "non-traffic-sensitive" or "NTS" costs) to the interstate portion of AT&T's business, for recov-

¹⁴⁰ See MacAvoy, *supra* note 83, at 24-27.

¹⁴¹ See *id.* at 25.

¹⁴² *United States v. Western Elec. Co.*, 1956 Trade Cas. (CCH) ¶ 68,246 (D.N.J. 1956).

¹⁴³ See Andrew Kupfer, AT&T's \$12 Billion Cellular Dream, *Fortune*, Dec. 12, 1994, at 100.

¹⁴⁴ See AT&T Corp., 1996 Annual Report 2 ex.13 (1997).

¹⁴⁵ See *id.*

ery through the pricing of interstate long-distance service.¹⁴⁶ The result was increasing pressure from state regulators for LECs to price local services at or below their economic costs. Far better, from Brown's perspective, for AT&T to be a company capable of paying regulatory subsidies than a company that could not be financially viable without the receipt of them. The new AT&T suffered no decline in the expected revenues of the assets assigned to it by the plan of reorganization. Moreover, technological change (particularly the conversion from microwave to fiber-optic cable) was reducing the cost of interexchange services, so even continued FCC rate regulation (before the advent of price caps) led to larger margins.¹⁴⁷

Fourth, the divestiture did nothing to open the local exchange to competition. Another prerequisite for stranded cost recovery—the elimination of regulatory barriers to entry into the regulated firm's market—was therefore absent. There continued to be one and only one Bell operating company in each service territory. The prevailing assumption among AT&T, the Department of Justice, and Judge Harold H. Greene was that local telephony was and would remain a natural monopoly.¹⁴⁸ That assumption became a principal justification for the regulatory quarantine imposed on the RBOCs. The divestiture structurally separated AT&T's long-distance network from its local exchanges but did not require any unbundling of those exchanges.

In short, the AT&T divestiture was not a case of a deregulatory taking for which no compensation was forthcoming for stranded costs. The breakup was a bargain to which the regulated firm consented, on terms that appeared to its managers at the time to be in the best interests of the firm's shareholders. The agreement did not lift entry barriers into the local exchange, nor did it reduce the revenues that could be earned from the assets of the new AT&T.

5. *Open-Access Transportation of Natural Gas*

Open-access transportation of natural gas represented a partial deregulation of interstate natural gas pipelines that involved stranded costs, although most of those costs were contractual rather than stranded investment.¹⁴⁹ Thus, it is more appropriate to characterize

¹⁴⁶ See Robert W. Crandall, *After the Breakup: U.S. Telecommunications in a More Competitive Era* 26 (1991); Mueller, *supra* note 49, at 159–60; Temin, *supra* note 138, at 24–27.

¹⁴⁷ See MacAvoy, *supra* note 83, at 93–98.

¹⁴⁸ See *Deregulatory Takings and the Regulatory Contract*, *supra* note 5, ch. 3.

¹⁴⁹ Part of the following discussion has previously appeared in Michael J. Doane & Daniel F. Spulber, *Open Access and the Evolution of the U.S. Spot Market for Natural Gas*, 37 *J.L. & Econ.* 477 (1994).

the firm's expectations as contractual in nature rather than investment-backed expectations. Regulation of interstate natural gas provides evidence for the existence of a regulatory contract. Open-access transportation eliminated regulatory entry barriers only for the merchant functions of interstate pipelines. After the passage of FERC Order 636, the pipelines were left with the costs of high-priced gas purchase contracts. FERC recognized those stranded costs and allowed the pipelines to pass them through to consumers.

Major regulatory changes in both pricing and transportation began in 1978 with the passage of the Natural Gas Policy Act¹⁵⁰ (NGPA). The NGPA, partly in response to natural gas shortages in the 1970s, decontrolled the wellhead prices of certain categories of natural gas. The NGPA created pricing categories on the basis of production methods, whether the gas was sold under a prior interstate contract, and other factors. Gas was divided into old, new, and "high-cost" gas, although many subcategories were created.¹⁵¹ Pipelines sought to increase their contractual purchase of gas in anticipation of future gas shortages in the early 1980s. Pipelines faced contractual obligations for resale and were able to recover the cost of purchased gas through cost-of-service rate regulation and minimum bill contracts with local distribution companies. The purchasing policies of many pipelines created severe distortions in wellhead prices as a consequence of the partial deregulation brought about by the NGPA.

Since the NGPA maintained strict controls on old gas, and relaxed controls on new gas and deregulated deep gas, pipelines seeking to contract for additional supplies bid up the prices of new and deep gas substantially above market-clearing levels. Since high-cost and low-cost supplies were "rolled in" by average cost price regulation, the pipelines purchased expensive new and deep gas. Furthermore, "most-favored-nation clauses" in many contracts caused prices to soar for other pipelines that had not bid for additional supplies but that had high-cost supplies already under contract. To compound the

¹⁵⁰ Pub. L. No. 95-621, 92 Stat. 3350 (1978) (codified as amended at 15 U.S.C. §§ 3301-3432 (1994)). The NGPA was accompanied by a host of other legislative actions concerning energy: the National Energy Conservation Policy Act, Pub. L. No. 95-619, 92 Stat. 3206 (1978) (codified as amended in scattered sections of 12 and 42 U.S.C.); the Public Utility Regulatory Policies Act of 1978, Pub. L. No. 95-617, 92 Stat. 3117 (codified as amended in scattered sections of 15, 16, 30, 42, and 43 U.S.C.); and the Powerplant and Industrial Fuel Use Act of 1978, Pub. L. No. 95-620, 92 Stat. 3289 (codified as amended at 15 U.S.C. § 796; 42 U.S.C. §§ 6211, 8301-8484; 45 U.S.C. §§ 821-825; 49 U.S.C. § 26b (1994)).

¹⁵¹ Old gas referred to gas dedicated to interstate commerce before the NGPA and rollover contracts and was subject to price controls. New gas primarily referred to new wells and was allowed a phased decontrol. High-cost gas included "deep" gas (from wells to a depth greater than 15,000 feet), which was deregulated.

problem further, take-or-pay clauses in those contracts bound pipelines to take deliveries of gas at those higher prices—often significantly above resale market price levels.

Those pipelines with smaller “cushions” of old gas faced higher average gas purchase costs. That led to many contract disputes as pipelines sought to avoid losses from take-or-pay obligations. Those losses were either in the form of payments for gas not taken, above-market payments for gas that was taken, or payments to settle contract disputes. Take-or-pay obligations increased significantly in 1984 when FERC issued Order No. 380, which eliminated the variable cost component of the minimum bill obligations of pipeline customers.¹⁵² By removing the costs associated with maintaining the supplies of gas available for purchase from pipelines’ minimum commodity bills, Order No. 380 effectively eliminated the requirement that customers of interstate pipelines purchase any minimum quantity of natural gas from their interstate pipelines. By the end of 1986, \$10 billion worth of contracts were involved in take-or-pay disputes.¹⁵³ Pipelines encountered difficulties in recovering contractual take-or-pay obligations. The contractual problems of producers and pipelines were an important factor in the creation of the spot market in that the gas supplies purchased in the infant spot market in late 1983 and early 1984 included the original, refused takes of the pipelines. An important motivation for later FERC Order Nos. 436 and 500 was to alleviate take-or-pay obligations by allowing pipelines to pass along the costs of buying out contracts.

On the transportation side, the NGPA allowed producers and resellers of gas other than pipelines and local distribution companies to be exempt from the certificate of convenience and necessity requirements of the Natural Gas Act¹⁵⁴ (NGA). Furthermore, the NGPA, under section 311, allowed pipelines to transport gas interstate without the certification requirements of the NGA. The NGPA was followed by various orders by FERC. Under Order No. 46 in 1978,

¹⁵² See Order No. 380, Elimination of Variable Costs from Certain Natural Gas Pipeline Minimum Commodity Bill Provisions, 49 Fed. Reg. 22,778 (1984) (final rule); Order No. 380-A, 49 Fed. Reg. 31,259 (1984) (denying rehearing and granting in part applications for stay); Order No. 380-B, 29 F.E.R.C. ¶ 61,076 (1982-1984) (denying rehearing and granting clarification); Order No. 380-C, 49 Fed. Reg. 43,625 (1984) (order on rehearing reaffirming application of rule to minimum take provisions and denying requests for waiver); Order No. 380-D, 29 F.E.R.C. ¶ 61,332 (1984) (denying rehearing and motion for stay of Order No. 380-C); *Wisconsin Gas Co. v. FERC*, 770 F.2d 1144 (D.C. Cir. 1985) (affirming in part and remanding in part Orders No. 380, 380-A to 380-D).

¹⁵³ See Matthew L. Wald, *Gas Producers See an End to Disputes with Pipelines*, N.Y. Times, Nov. 7, 1988, at D1.

¹⁵⁴ Ch. 556, 52 Stat. 821 (1938) (codified as amended at 15 U.S.C. § 717a-717w).

FERC could authorize interstate and intrastate pipelines to transport gas for each other.¹⁵⁵ FERC Order No. 27 in 1979 allowed essential agricultural users, schools, and hospitals to develop gas themselves or buy directly from producers and authorized interstate pipelines to transport such gas.¹⁵⁶ FERC Order No. 30 in 1979 extended transportation programs to end users substituting natural gas for fuel oil during the fuel oil emergency.¹⁵⁷ FERC also allowed interstate pipeline companies to sell gas directly to end users not normally served, a practice referred to as "off-system sales."¹⁵⁸

FERC took the major step toward open-access transportation by issuing Order No. 436 in 1985, which allowed pipelines to become open-access transporters for gas bought directly from producers by all classes of customers.¹⁵⁹ That order institutionalized the separation of the merchant and transportation functions of interstate pipelines. In addition, FERC Order No. 500 (which in 1987 superseded Order No. 436) offered blanket certificates for transportation of gas, provided that the pipeline company agreed to allow all customers access to the service.¹⁶⁰ Order No. 500 allowed pipelines to reduce their rates while

¹⁵⁵ See Order No. 46, Sales and Transportation of Natural Gas, 44 Fed. Reg. 52,179, reh'g granted, 44 Fed. Reg. 66,789 (1979).

¹⁵⁶ See Order No. 27, Certification of Pipeline Transportation for Certain High Priority Users, 44 Fed. Reg. 24,825 (1979).

¹⁵⁷ See Order No. 30, Transportation Certificates for Natural Gas for the Displacement of Fuel Oil, 44 Fed. Reg. 30,323 (1979).

¹⁵⁸ FERC took two intermediate steps toward open-access transportation in 1983. FERC Order No. 319 introduced the use of blanket certificates for the transport of gas for high-priority users. See Order No. 319, Sales and Transportation by Interstate Pipelines and Distributors, 18 C.F.R. pts. 157 & 284 (1977); Order No. 319-A, 18 C.F.R. pt. 157 (1983) (order on rehearing). The transporter did not need to obtain separate authorization for each transaction. FERC Order No. 234-B allowed the use of blanket certificates for the transport of gas for nonpriority users. Order No. 234-B, Interstate Pipeline Blanket Certificates for Routine Transactions and Sales and Transportation by Interstate Pipelines and Distributors, 48 Fed. Reg. 34,872 (1983) (final rule). That development created a spot market of direct sales from producers and other intrastate suppliers to industrial boiler fuel users. Gas could be sold and transported for up to 120 days without prior approval.

¹⁵⁹ See Order No. 436, Regulation of Natural Gas Pipelines After Partial Wellhead Decentralization, 50 Fed. Reg. 42,408, 45,907 (1985) (final rule and statement of policy); Order No. 436-A, 50 Fed. Reg. 52,217 (1985) (order on rehearing); Order No. 436-B, 51 Fed. Reg. 6,398 (1986) (order on rehearing); Order No. 436-C, 34 F.E.R.C. ¶ 61,404 (1986) (denying rehearing); Order No. 436-D, 34 F.E.R.C. ¶ 61,405 (1986) (denying applications for rehearing); Order No. 436-E, 34 F.E.R.C. ¶ 61,403 (1986) (denying request for reconsideration); *Associated Gas Distributors v. FERC*, 824 F.2d 981 (D.C. Cir. 1987) (vacating and remanding Order No. 436).

¹⁶⁰ See Order No. 500, Regulation of Natural Gas Pipelines After Partial Wellhead Decentralization, 52 Fed. Reg. 30,334 (1987) (interim rule and statement of policy); Order No. 500-A, 52 Fed. Reg. 39,507 (1987) (interim rule granting extension of time for responses to take-or-pay data request); Order No. 500-B, 52 Fed. Reg. 39,630 (1987) (denying rehearing in part, granting rehearing in part, and modifying prior order); Order No. 500-C, 52 Fed. Reg. 48,986 (1987) (order on rehearing modifying prior orders); Order No. 500-D, 53 Fed.

permitting customers to convert the contractual delivery requirements for gas that were placed on pipelines (known as "contract demand" volumes) to "firm transportation" volumes, thus allowing pipelines to shift their responsibilities from merchant functions to transportation. As a consequence, within roughly five years, beginning in the mid-1980s, major interstate pipelines went from being primarily buyers and sellers of gas, bundled with transportation services, to being primarily transporters of gas. Pipelines continued to provide merchant services through marketing affiliates, but they faced a host of competitors, including direct transactions between buyers and gas suppliers, brokers, and gas marketers. With the enactment of the Natural Gas Wellhead Decontrol Act of 1989,¹⁶¹ Congress repealed the remaining price controls on wellhead gas. After the NGPA began the process of decontrolling the wellhead prices of natural gas in 1978, open-access transportation led to the rapid development of a national spot market for gas.¹⁶²

In 1992 FERC issued Order No. 636, which mandated that pipelines must separate gas sales from transportation.¹⁶³ The order, in effect, completed the policy actions that FERC adopted throughout the 1980s. The traditional merchant function of pipelines included the management of a complex portfolio of purchase and sales contracts, brokerage between suppliers and customers, and financing of gas transactions that were almost exclusively tied to the pipelines' transportation of gas. The NGPA and subsequent FERC orders dramatically altered the structure of the industry and the role of pipelines. The separation of marketing and transportation allowed customers to purchase and resell gas and then contract for transportation. Specialized middlemen, consisting of gas brokers and other marketers, arose to service those transactions. Pipelines were reduced largely to common carrier status, transporting gas for other buyers and sellers.

Reg. 8,439 (1988) (modifying dates); Order No. 500-E, 43 F.E.R.C. ¶ 61,234 (1988) (denying rehearing); Order No. 500-F, 53 Fed. Reg. 50,924 (1988) (statement of policy extending date for filing Final Tariff Sheets under Alternative Passthrough Mechanism); Order No. 500-G, 46 F.E.R.C. ¶ 61,148 (1989) (denying rehearing); *American Gas Ass'n v. FERC*, 888 F.2d 136 (D.C. Cir. 1989) (vacating and remanding Order No. 500).

¹⁶¹ Pub. L. No. 101-60, 103 Stat. 157 (codified as amended in scattered sections of 15 U.S.C. (1994)).

¹⁶² See Doane & Spulber, *supra* note 149, at 482-501.

¹⁶³ See Order No. 636, Pipeline Service Obligations and Revisions to Regulations Governing Self-Implementing Transportation and Regulation of Natural Gas Pipelines After Partial Wellhead Decontrol, 18 C.F.R. pt. 284 (1992) (final rule); Order No. 636-A, 57 Fed. Reg. 36,128 (1992) (denying rehearing in part, granting rehearing in part, and clarifying Order 636); Order No. 636-B, 61 F.E.R.C. ¶ 61,272 (1992) (denying rehearing), 62 F.E.R.C. ¶ 61,007 (1993) (notice of denial of rehearing).

FERC addressed stranded cost recovery in the wake of Order No. 636, thus avoiding a deregulatory taking.¹⁶⁴ Michael J. Doane and Michael A. Williams have observed that

the Commission recognized unbundling would create four types of costs: (1) unrecovered gas purchase costs resulting from the adoption of market-based gas pricing in lieu of a purchased gas adjustment mechanism; (2) gas supply realignment ("GSR") costs resulting from the need to revise or terminate existing contracts with gas suppliers; (3) costs incurred in connection with providing bundled sales service that could not be directly assigned to customers of bundled service (which the FERC explicitly labeled "stranded costs"); and (4) costs of new facilities required to implement the Order.¹⁶⁵

FERC allowed the pipelines to recover those costs through the fixed-charge element of straight fixed-variable transportation rates for natural gas. FERC learned from its earlier experience when, in *Associated Gas Distributors v. FERC*,¹⁶⁶ it was faulted by the U.S. Court of Appeals for the D.C. Circuit for not addressing the pipelines' take-or-pay problems that had occurred in the early 1980s.¹⁶⁷ FERC had some incentive to deal with stranded cost recovery because the rate regulation of pipeline transportation continued after the institution of open-access transportation. Nonetheless, the agency significantly relaxed controls on the entry of interstate pipelines while incumbent pipelines continued to face rate controls and other incumbent burdens.¹⁶⁸ That situation suggested that there could be continued concerns over deregulatory takings in the natural gas pipeline industry. FERC allayed those concerns by expressly providing for full recovery of gas supply realignment costs. As the D.C. Circuit noted in 1996 in *United Distribution Companies v. FERC*:¹⁶⁹

Instead of refusing to establish a mechanism for pipelines to recover their take-or-pay costs, as it originally had in Order No. 436, FERC authorized pipelines to bill their customers separately for 100% of their GSR costs. This policy was, in fact, a substantial change from even Order No. 500, which permitted pipelines to surcharge their

¹⁶⁴ FERC exacerbated the problem by removing the variable cost component of minimum-bill obligations for pipeline customers in Order No. 380, *supra* note 152.

¹⁶⁵ 3 Michael J. Doane & Michael A. Williams, *Competitive Entry into Regulated Monopoly Services and the Resulting Problem of Stranded Costs*, in *Hume Papers on Pub. Pol'y* 32, 36 (Paul W. MacAvoy ed., Edinburgh Univ. Press 1995).

¹⁶⁶ 824 F.2d 981 (D.C. Cir. 1987).

¹⁶⁷ See *id.* at 998.

¹⁶⁸ See Paul W. MacAvoy et al., *Is Competitive Entry Free? Bypass and Partial Deregulation in Natural Gas Markets*, 6 *Yale J. on Reg.* 209, 210, 224-31 (1989).

¹⁶⁹ 88 F.3d 1105 (D.C. Cir. 1996).

transportation customers for take-or-pay costs only if they agreed to absorb between 25 and 50% of those costs.¹⁷⁰

As the D.C. Circuit noted, FERC later modified Order No. 636 by requiring pipelines “to bill 10% of their GSR costs to interruptible transportation customers.”¹⁷¹ The court, however, remanded the decision to FERC for a fuller explanation of its rationale for that method of cost recovery.

6. Wholesale Wheeling of Electricity

FERC has explicitly endorsed the recovery of stranded costs occasioned by the mandatory wholesale wheeling of electricity. The agency ruled in Order No. 888 in 1996 that “[i]f a former wholesale requirements customer or a former retail customer uses the new open access” mandated by FERC, pursuant to the Energy Policy Act of 1992, “to reach a new supplier” of electricity, then “the utility is entitled to recover legitimate, prudent and verifiable costs that it incurred under the prior regulatory regime to serve that customer.”¹⁷² The agency concluded that

utilities that entered into contracts to make wholesale requirements sales under an entirely different regulatory regime should have an opportunity to recover stranded costs that occur as a result of customers leaving the utilities’ generation systems through Commission-jurisdictional open access tariffs or . . . orders [under section 211 of the Federal Power Act], in order to reach other power suppliers.¹⁷³

FERC characterized the situation as one of *regulatory* change rather than strictly exogenous changes in market demand or technology:

[W]e do not believe that utilities that made large capital expenditures or long-term contractual commitments to buy power years ago should now be held responsible for failing to foresee the actions this Commission would take to alter the use of their transmission systems in response to the fundamental changes that are taking place in the industry. We will not ignore the effects of recent significant statutory and regulatory changes on the past investment decisions of utilities. While . . . there has always been some risk that a utility would lose a particular customer, in the past that risk was smaller.

¹⁷⁰ Id. at 1177.

¹⁷¹ Id.

¹⁷² Order No. 888, Promoting Wholesale Competition Through Open Access Non-Discriminatory Transmission Services by Public Utilities and Recovery of Stranded Costs by Public Utilities and Transmitting Utilities, 18 C.F.R. pts. 35 & 385, 61 Fed. Reg. 21,540, 21,630 (1996) (final rule) (construing Federal Power Act, 16 U.S.C. §§ 791, 796, 824).

¹⁷³ Order No. 888, 61 Fed. Reg. at 21,629 (citation omitted).

It was not unreasonable for the utility to plan to continue serving the needs of its wholesale requirements customers and retail customers, and for those customers to expect the utility to plan to meet future customer needs. With the new open access, the risk of losing a customer is radically increased.¹⁷⁴

FERC explicitly stated that “the electric industry’s transition to a more competitive market *is* driven in large part by statutory and regulatory changes beyond the utilities’ control.”¹⁷⁵ The commission reiterated its earlier conclusion that electric utilities had been subject to a regulatory regime “that, on the one hand, imposed an obligation to serve, and, on the other hand, permitted recovery of all prudently incurred costs.”¹⁷⁶ Stranded cost recovery also had an implication for the efficient and equitable treatment of various customer classes, for “if customers leave their utilities’ generation systems without paying a share of these costs, the costs will become stranded unless they can be recovered from other customers.”¹⁷⁷

FERC believed that its experience in addressing stranded costs in natural gas transportation following Order No. 636 had demonstrated the need to include stranded cost recovery as part of the agency’s initiatives to order open-access transmission of wholesale power:

We learned from our experience with natural gas that, as both a legal and a policy matter, we cannot ignore these costs. During the 1980s and early 1990s, the Commission undertook a series of actions that contributed to the impetus for restructuring of the gas pipeline industry. The introduction of competitive forces in the natural gas supply market as a result of the Natural Gas Policy Act of 1978 and the subsequent restructuring of the natural gas industry left many pipelines holding uneconomic take-or-pay contracts with gas producers. When the Commission initially declined to take direct action to alleviate that burden, the U.S. Court of Appeals for the District of Columbia Circuit faulted the Commission for failing to do so. The court noted that pipelines were “caught in an unusual transition” as a result of regulatory changes beyond their control.¹⁷⁸

FERC concluded that the D.C. Circuit’s “reasoning in the gas context applies to the current move to a competitive bulk power industry.”¹⁷⁹ The agency emphasized that it sought to avoid problems

¹⁷⁴ Id. at 21,629–30 (citations omitted).

¹⁷⁵ Id. at 21,629 n.583 (emphasis in original).

¹⁷⁶ Id. at 21,628 (citation omitted).

¹⁷⁷ Id.

¹⁷⁸ Id. at 21,630 (quoting *Associated Gas Distribs. v. FERC*, 824 F.2d 981, 1027 (D.C. Cir. 1987)) (citations omitted).

¹⁷⁹ Id.

that it had created in deregulating natural gas transportation by not addressing stranded costs from the beginning:

[B]ecause the Commission failed to deal with the take-or-pay situation in the gas context, the court invalidated the Commission's first open access rule for gas pipelines. Once again, we are faced with an industry transition in which there is the possibility that certain utilities will be left with large unrecoverable costs or that those costs will be unfairly shifted to other (remaining) customers. That is why we must directly and timely address the costs of the transition by allowing utilities to seek recovery of legitimate, prudent and verifiable stranded costs.¹⁸⁰

At the same time, FERC emphasized that its rule for stranded cost recovery would not "insulate a utility from the normal risks of competition, such as self-generation, cogeneration, or industrial plant closure," which FERC emphasized "do not arise from the new availability of non-discriminatory open access transmission."¹⁸¹ Just as our limiting principles would imply, FERC concluded that "[a]ny such costs would not constitute stranded costs for purposes of" the agency's rule for cost recovery.¹⁸² Thus, FERC's decision in Order No. 888 was consistent with the limiting principle inherent in the correct interpretation of *Market Street Railway*, which would deny a utility recovery of costs that had become unrecoverable as a result of exogenous changes in technology or market demand.

7. Recapitulation

Private municipal railways did not experience deregulatory takings because their inability to recover costs did not result from a change in regulatory policy. Airline deregulation did not satisfy the criteria for a deregulatory taking, in large part because a key characteristic of that industry is a limited degree of asset specificity. Railroad deregulation also did not indicate a deregulatory taking, for the lifting of regulatory controls benefited the railroad industry by allowing it pricing and contracting flexibility to compete more effectively with other modes of transportation that had already imposed exogenous downward pressure on profitability. The AT&T divestiture did not effect a deregulatory taking for a number of reasons, including the fact that AT&T was released from incumbent burdens that had been imposed by regulation and an earlier consent decree. Open-access deregulation in natural gas transportation also did not satisfy the criteria for a deregulatory taking because FERC made explicit

¹⁸⁰ Id.

¹⁸¹ Id.

¹⁸² Id.

provisions for addressing stranded costs associated with supply contracts for gas that were priced above the deregulated market level. Thus, FERC avoided the takings issue through appropriate cost recovery procedures. FERC chose the same course of action with respect to stranded costs arising from mandatory wholesale wheeling of electricity.

D. Cable Television Franchises and Military Base Closings

The end of the Cold War precipitated a kind of stranded cost problem concerning cable television franchises on military bases. The parallels to abrogation of the regulatory contract are strong. In a 1996 advisory opinion, Chief Judge Loren A. Smith of the Court of Federal Claims in effect ruled that the federal government was liable for the cable operators' stranded costs resulting from the military base closings.¹⁸³ Cable operators entered into franchise agreements with the federal government to serve military bases in a manner reminiscent of the grant of early utility franchises by municipalities: "the cable operator builds the infrastructure at its own cost, and is given a franchise to provide cable service for a term of years in which to recoup its costs and make a reasonable return on its investment."¹⁸⁴ The end of the Cold War, however, forced the federal government to close various military bases, which could have had a "potentially devastating" effect on cable operators, who "had already made the up-front capital expenditures to build the cable system infrastructure, but often did not have enough time to recoup their costs by selling cable services on the bases."¹⁸⁵ The government took the position that the cable franchise agreements were "not contracts for goods or services" but "merely confer[red] upon the franchisee a non-exclusive right to enter the base to construct, install, maintain, and operate the facilities and equipment necessary to provide cable services."¹⁸⁶ Consequently, the government refused to accept any responsibility for a cable operator's unrecouped capital expenditures when a base was closed.¹⁸⁷

Chief Judge Smith rejected the government's position as a matter of law and equity. He believed that the "franchise agreements at issue are much more than mere easements: they create reciprocal rights and

¹⁸³ See *In re Department of Defense Cable Television Franchise Agreements*, 36 Fed. Cl. 171, 179 (1996). The Court of Federal Claims may issue advisory opinions because it is an Article I court, not an Article III court. For simplicity, we ignore the various questions of government procurement law not critical to the decision's relevance, by analogy, to the regulatory contract.

¹⁸⁴ *Id.* at 174.

¹⁸⁵ *Id.*

¹⁸⁶ *Id.*

¹⁸⁷ See *id.*

responsibilities and include enforceable terms and conditions . . . that have nothing to do with easements or rights-of-way."¹⁸⁸ His rebuke of the government's position is reminiscent of contemporary arguments that the municipal franchises of electric utilities and telephone companies consist of nothing more than a permit to use public rights of way:

[T]he government's argument that the franchise agreement is nothing more than a non-exclusive right of entry to construct, install, and maintain a cable system simply does not reflect the nature of the franchise agreement standing alone. The franchise agreement does contain such a right of entry, but this is only a portion of its scope. The agreement also memorializes the corresponding rights of the parties, and the obligations of the cable operator in actually operating the system. This goes far beyond a mere right-of-way. . . . [A] military base enters into a franchise agreement for the purpose of purchasing a service—the ability to have access to cable television for its direct use and the use of the base population. In consideration the cable operator is granted a specific term of years—embodied in the contract and enforceable by the cable operator—in which to make a return on its capital investment by selling subscriptions. It is true that the military is not obligated to purchase cable service under the terms of these franchise agreements, but the reality is that both the cable operator and the base know that sales to the base of cable service will be a natural consequence of the franchise agreement, and are expected to occur under the agreement.¹⁸⁹

Chief Judge Smith noted that “[t]he government's position would be far more plausible if it had merely provided a right-of-way, revocable at the government's option, for a cable operator to build, construct, and install a cable system,” but that “a rational cable operator would never enter into such an agreement because it could have no guarantee that its investment would be protected.”¹⁹⁰ Just as in the early Supreme Court decisions concerning municipal franchises, Chief Judge Smith's reasoning emphasized the necessity of cost recovery: “The consideration a cable operator receives in the franchise agreement is the term of years, which gives the cable operator the opportunity to recoup its investment and make a return on that investment.”¹⁹¹ And, just like the Supreme Court in the 1902 decision in *Detroit v. Detroit Citizens' Street Railway Co.*,¹⁹² Chief Judge Smith

¹⁸⁸ *Id.* at 177.

¹⁸⁹ *Id.* at 178–79.

¹⁹⁰ *Id.* at 179.

¹⁹¹ *Id.*

¹⁹² 184 U.S. 368 (1902). The court noted that

[i]t would hardly be credible that capitalists about to invest money in what was then a somewhat uncertain venture, while procuring the consent of the city to lay its rails and operate its road through the streets in language which as to the

relied on proof by contradiction to establish that the bargain at issue must have envisioned that the franchisee would receive the reasonable opportunity to recover its costs:

It is . . . instructive to see if the franchise agreement can be viewed rationally under the government's interpretation. Under the government's theory, cable operators are permitted to build and maintain a cable system at the cable operator's cost, while at the same time the contractor has no idea whether the term of years needed to recover its investment will take place. Moreover, the government at any time can close the base and eliminate the opportunity for the cable operator to recoup its costs. It appears clear to the court that no rational actor would agree to such terms; it would face unquantifiable risks and uncompensable damages. This approach would turn a cable franchise at a military base into a pure gamble.¹⁹³

In a word, the form of exchange that the government depicted would have been involuntary—and thus counterfactual in an economy where there is no conscription of private capital.

Chief Judge Smith then considered the foreseeability of the risk of base closure, the issue in the case analogous to the claim in the case of telephony and electric power that the regulator's abrogation of the regulatory contract was foreseeable. The government understandably took the position that "the risk of base closure was a legitimate business risk that cable operators assumed when entering into these agreements."¹⁹⁴ Chief Judge Smith disagreed:

Aside from the fact that it was very unlikely that base closure was ever contemplated by either the government or cable operators as a real possibility when these agreements were executed, this cannot be considered a legitimate business risk. No person would argue that cable operators are guaranteed a profit; they are susceptible to the traditional risks all businesses face. Things such as changing costs, the ability to attract customers, and the estimates and projections on which bids are made all are business variables that are inherent to any business venture. The closure of the military base, however, is *a unilateral act by a party to the bargain that deprives cable operators not only of any opportunity to make a profit but of any opportunity to recover fixed and sunk costs*. Such action by one

rate of fare amounted to a contract, and gave the company a right to charge a rate then deemed essential for the financial success of the enterprise, would at the same time consent that such rate then agreed upon should be subject to change from time to time by the sole decision of the common council.

Id. at 384-85.

¹⁹³ *Defense Cable Television*, 36 Fed. Cl. at 179.

¹⁹⁴ Id.

party to a bargain that can directly damage the other cannot be considered to fall under the rubric of legitimate business risk.¹⁹⁵

Chief Judge Smith concluded that "impacted cable operators are entitled as a matter of law to termination for convenience costs for the unamortized and unreturned portion of their capital investments."¹⁹⁶

Chief Judge Smith also concluded that the cable operators had "a strong equitable claim to compensation regardless of the status of the law."¹⁹⁷ He reiterated that "the cable operator needs the term of years under the franchise agreement to recoup its capital investment and make a return on that investment" and that "the possibility of major base closure was simply not seriously considered by either franchisors or franchisees as defense spending continued to increase prior to the end of the Cold War."¹⁹⁸ His comments about the unpredictability of the end of the Cold War echo the comments about the unpredictability of regulatory changes scrapping the old paradigm and mandating unbundled network access in local telephony and electric power:

There was simply no consideration that the military would shrink rapidly, necessitating the closure of bases while cable operators were still trying to recoup their investments. Further, the closing of the bases, which effectively denied the cable operators on impacted bases the opportunity to recoup their investments, was, of course, without any fault by the cable operators nor within their control. Closure means the subscriber population literally disappears, leaving the cable operator with a ghost system.¹⁹⁹

Chief Judge Smith concluded his advisory opinion by recommending that Congress enact legislation to permit cost recovery for the cable operators, and he even provided a suggested formula for achieving that purpose.²⁰⁰

The cable operators affected by military base closings do not, of course, strictly satisfy all four of our limiting principles for stranded cost recovery. As Chief Judge Smith's advisory opinion makes clear, those operators have an enforceable contract similar in nature to the regulatory contract. Their cable infrastructures are ample evidence of investment-backed expectations. And they will assuredly suffer a decline in their expected revenues following the base closing. But, unlike a utility undergoing deregulation, those cable operators did not

¹⁹⁵ *Id.* (emphasis added).

¹⁹⁶ *Id.* "Convenience costs" is a term of art in procurement law. See *Torncello v. United States*, 681 F.2d 756, 759 (Fed. Cir. 1982).

¹⁹⁷ *Defense Cable Television*, 36 Fed. Cl. at 180.

¹⁹⁸ *Id.*

¹⁹⁹ *Id.*

²⁰⁰ See *id.* at 181.

experience the elimination of regulatory entry barriers. Instead, they experienced the complete elimination of demand for their services due to the government's unilateral actions. Nonetheless, the legal analysis of the rights of cable operators affected by military base closings helps to illuminate the regulatory contract, for the decision to abrogate that contract, like the decision to close a particular base, is "a unilateral act by a party to the bargain that deprives" the regulated firm "not only of any opportunity to make a profit but of any opportunity to recover fixed and sunk costs."²⁰¹

*E. Retroactive Prudency Reviews as a Condition
for Recovery of Stranded Costs*

In Order No. 888, FERC ruled that stranded costs associated with a departing customer could be recovered only if they were "legitimate, prudent and verifiable costs" that the electric utility "incurred under the prior regulatory regime to serve that customer."²⁰² That condition raises the question of whether prudency of investment should be a limiting principle for stranded cost recovery in addition to the four principles that we have already identified. Our view is that it would be superfluous to require the utility to prove for a second time the prudency of the investments whose costs are stranded by the elimination of entry regulation or mandatory unbundling. The regulator already passed on the prudency of those investments before the utility made them and was allowed to include them in its regulated capital account. Despite our initial resistance to making a retroactive prudency review a precondition or limiting principle for the recovery of stranded costs, Judge Stephen F. Williams has criticized our earlier writings as insufficiently attentive to the need for such a review.²⁰³

Judge Williams's "central concern" with our analysis "is the question of why the old utility may not be in a good position to compete with new entrants."²⁰⁴ He disagrees with our analysis to the extent that he considers it to be limited by "the failure to sift out and deny compensation for sunk but inefficient capital costs."²⁰⁵ (Professor Williamson, also responding to our earlier article, suggests that regulatory inefficiencies might excuse deregulatory takings.²⁰⁶) Apart from

²⁰¹ *Id.* at 179.

²⁰² Order No. 888, Promoting Wholesale Competition Through Open Access Non-Discriminatory Transmission Services by Public Utilities and Recovery of Stranded Costs by Public Utilities and Transmitting Utilities, 18 C.F.R. pts. 35 & 385 (1996) (emphasis added).

²⁰³ See Williams, *supra* note 3.

²⁰⁴ *Id.* at 1000.

²⁰⁵ *Id.* at 1005.

²⁰⁶ See Williamson, *supra* note 4, at 1013-14.

that concern, however, Judge Williams agrees that if the utility's inability to compete after deregulation has resulted from mandatory cross-subsidies in the rate structure or other incumbent burdens, we are

surely right, at least as a first approximation, in saying that compensation is economically sound. When "deregulation" exposes the regulated firm to what is called cream-skimming, i.e., to market prices in the markets where it has been collecting rents that the regulator has doled out to someone else, the authors' case for compensation is powerful. And a duty to provide compensation will create pressure on the regulators to protect the utility by *rebalancing* the pricing, i.e., by using rebalancing to satisfy the compensation requirement (in whole or in part).²⁰⁷

Judge Williams, however, expresses skepticism that the losses from deregulatory unbundling flow only from such distortions mandated by regulation. "It is a commonplace of regulatory literature," he notes, "that the price-regulated natural monopoly is likely to be run inefficiently and with a degree of gold-plating—lavish executive offices, corporate jets, etc."²⁰⁸ Judge Williams therefore disputes the propriety of compensating the incumbent utility for its inability to recover certain kinds of costs of a competitive environment:

[T]ake the case of the electric utility that is suddenly required to wheel electricity for other entrants and finds its own power uncompetitively expensive. Part of its plight may well be due to obligations to sell to privileged customers at inadequate prices, but part of it may be due to inefficiencies generally associated with price-regulated natural monopolies. Can one clearly say that there is a compelling principle of political economy requiring compensation for one hundred percent of the losses attributable to inefficiency?²⁰⁹

Complicating the equitable case for recovery of the costs of the utility's inefficient practices, in Judge Williams's view, is the possibility that the utility "captured" the very regulators who subsequently found the firm's inefficient investments to be prudent or, worse, never bothered to inquire into the matter:

Now it is quite true that the *stockholders* will have gained nothing from the inefficiencies (though gold-plating will have benefited management). So, lapsing from efficiency to equity, I can see some equitable claim. But by the same token, it is not clear that customers necessarily bear any more responsibility for this perversity. One

²⁰⁷ Williams, *supra* note 3, at 1001 (emphasis in original) (citation omitted).

²⁰⁸ *Id.* (citing Bernard S. Black & Richard J. Pierce, Jr., *The Choice Between Markets and Central Planning in Regulating the U.S. Electric Industry*, 93 *Colum. L. Rev.* 1339, 1345 (1993)).

²⁰⁹ *Id.* at 1001-02.

might say that regulation had been embarked upon in their name, so they should bear the costs of transition. But even this equitable argument is undercut if you accept commonly held stories of regulation as a benefit for the regulated firms, deliberately secured by them in the political market. If the equities are uncertain, there surely is ground to resist a compensation rule that projects the ill effects of regulation-induced inefficiencies into the future.²¹⁰

The problem is further complicated by the very source of these inefficiencies. If regulators were thoroughly adept at spotting inefficiencies, they wouldn't have existed in the first place—the regulators would have screened them out as impermissible costs. In fact, one of the arguments for deregulatory unbundling is precisely the tendency of regulation to cause inefficiencies. So there may be considerable difficulty separating the portion of the firm's losses due to embedded inefficiencies and the portion due to pricing imbalance.

Judge Williams further notes that as an empirical matter, "costs are commonly not evaluated by the regulatory agency at all unless an issue has been made of them in a rate case."²¹¹ He therefore disputes the factual premise of our earlier discussion in which we argue that conditioning stranded cost recovery on an *ex post* prudency review is to give the regulator (and consumers) two bites at the investment apple. Two bites would not be objectionable in the abstract, but in practice several costs would arise.

To respond to Judge Williams's criticism, let us first consider cases where prudency reviews did precede the construction or inclusion in the rate base of substantial investments that have become uneconomic in the competitive market. We continue to believe that it would be inefficient in such cases to require a retroactive prudency review as a condition of stranded cost recovery. Four kinds of unnecessary costs would attend such proceedings. First, at the time that the utility made its investment in nonsalvageable assets, the expectation of a second prudency review years after the utility had made its investment in long-lived assets would shift risk from consumers to the utility and thus raise the utility's cost of capital relative to what it would be in the absence of such a procedure. To the extent that the cost of capital had not compensated the utility's shareholders for that allocation of risk, the retroactive prudency review would effect a wealth

²¹⁰ Id. at 1002–03 (emphasis in original). As Judge Williams notes, see *id.* at 1003 n.8, one of us has written that the opportunity cost component of the efficient component-pricing rule "*must exclude any monopoly profits or excessive costs attributable to inefficiency.*" William J. Baumol & J. Gregory Sidak, *Transmission Pricing and Stranded Costs in the Electric Power Industry* 117 (1995) (emphasis in original).

²¹¹ Williams, *supra* note 3, at 1003.

transfer after the utility had invested in asset-specific capital. Going forward, of course, investors would explicitly demand such a risk premium.

Second, a retroactive prudency review conducted years after the utility had made its investment in long-lived assets would be a fact-intensive proceeding that would have the high transactions costs and evidentiary complications inherent in any commercial litigation concerning business decisions that had been made decades earlier. *Every* state and federal unbundling proceeding in the electric power and local telephony industries could be expected to generate protracted litigation over the prudency of investments that had long before been the basis for the calculation of rates that regulators had approved as just and reasonable. As a legal matter, the prudency of those investments is and should be *res judicata*.²¹² As a broader matter of public policy, all the arguments that justify doctrines of issue preclusion in civil procedure would militate against relitigating the prudency of investments that regulators evaluated years or decades earlier. Note also that retroactive prudency review is inherently an asymmetric process. No one is suggesting that, at the time it seeks to recover its stranded costs, a utility should be allowed to revisit the question of whether investments previously determined to have been imprudently incurred were in fact erroneously disallowed by the regulator. That asymmetry means that those seeking retroactive prudency reviews would have nothing to lose, except their own transactions costs. Consequently, their demand for such reviews would be excessive.

Third, a retroactive prudency review would implicitly focus on an asset-by-asset summation of stranded costs. As we argued earlier, however, that approach is inferior on both theoretical and computational grounds to an estimation of the diminution of the utility's net revenues after mitigation.²¹³

Fourth, a retroactive prudency review presents a question that goes to the heart of identifying and compensating stranded costs: prudent for what purpose? The answer to that question returns us to *Northern Pacific Railway*.²¹⁴ It is not legitimate to ask whether a set of transaction-specific investments that were designed to provide an integrated network to end customers also happens to embody an efficient design for the same utility now to supply unbundled network segments or elements to its competitors. As Baumol and Willig observed in the case of railroads, "investors have committed vast sums to

²¹² See, e.g., *Ryan v. New York Tel. Co.*, 62 N.Y.2d 494, 499 (1984).

²¹³ See *Deregulatory Takings*, *supra* note 1, at 924-26.

²¹⁴ *Northern Pac. Ry. Co. v. North Dakota*, 236 U.S. 585 (1915). For a discussion of the case, see *supra* Part II.A.

provide efficient *networks*, and not merely segments.”²¹⁵ It would contravene takings jurisprudence and sound economic policy for regulators or courts to use retroactive prudency reviews as camouflage while they proceeded to redefine without just compensation the public purpose to which the utility had originally dedicated its private property.

Those four considerations imply that, with respect to any investment for which the utility already underwent a prudency review, it would be inappropriate to require another retroactive prudency review as a condition of permitting the utility to recover its stranded costs. One may continue to object that the regulator that passed on the prudency of the utility’s investment was captured by the firm that it purported to regulate or was too inept to regulate it in a manner truly in the public interest. Judge Williams observes that, “if one of the defects of regulation is that we doubt the ability of the regulators to identify inefficiency, the fact of their failure to do so proves little.”²¹⁶ But that lament is really one that concerns the failure of democratic institutions. The legislators and regulators entrusted to design effective regulation failed in their task. Moreover, if the regulator demonstrated its susceptibility to type I errors by incorrectly determining imprudent investment to be prudent, what confidence could we have that, in subsequent determinations attending proceedings for stranded cost recovery, the same regulators would not also commit type II errors by retroactively reclassifying prudent investment as imprudent and hence ineligible for stranded cost recovery? Alternatively, an appellate court might have the wisdom and insulation from interest-group politics to incur far fewer type I and type II errors than a regulatory commission. But for a court to displace the public utility commission in that manner and to insinuate itself so deeply and expansively into the technicalities of public utility regulation would, in effect, reinforce the conclusion that the democratic processes that created the regulatory process had failed.

Now consider cases where prudency reviews did *not* precede the construction or inclusion in the rate base of substantial investments that became uneconomic in the competitive market. Here, for the reasons that Judge Williams identified, a regulator would have a stronger rationale for requiring a retroactive prudency review as a condition of stranded cost recovery. Yet even in such cases, the rationale for a retroactive prudency review is far from compelling. Judge Williams may be correct that “costs are commonly not evalu-

²¹⁵ Baumol-Willig STB Response, *supra* note 137, at 8 (emphasis in original).

²¹⁶ Williams, *supra* note 3, at 1003.

ated by the regulatory agency at all unless an issue has been made of them in a rate case."²¹⁷ But public utility regulation implicitly contains a private enforcement mechanism in the form of intervention by large, well-organized customers. Judge Williams's legitimate observation therefore invites one to ask why it was that the utility's large business and industrial customers failed to act in their own self-interest by intervening in the very rate cases in which the regulator approved, as just and reasonable, prices that provided for cost recovery for the investments that those customers subsequently contend, in stranded cost proceedings, were imprudently incurred. On such facts it would appear that, by their own revealed behavior, large customers in such rate cases did not consider the investments at issue to have implications for the regulated price of service that were significant relative to the costs of intervening in the rate proceeding. In that case, it would hardly be appropriate to make the past inaction of such customers a factor that favored revisiting the prudence question today.

Judge Williams questions whether ongoing operating costs due to past regulatory decisions should be counted as part of stranded costs. He offers the example of inefficient natural gas procurement contracts entered into under regulation. In our view, the operating costs due to past regulatory decisions remain the responsibility of regulators, and such was the case with FERC's handling of the transition costs in natural gas. Judge Williams points out that the recovery mechanism will affect the economic outcome. If the regulator allows the regulated firm to recover those costs as they are incurred, that policy could dull the incumbent's incentives to mitigate those costs, while reimbursement of those costs upon deregulation would transfer to the utility any costs savings from mitigation. The problem is how to preserve incentives for mitigation by the firm while sharing the gains from mitigation with consumers. That is a thorny problem that raises both economic efficiency and equity issues. The incentive effects of pay-as-you-go compensation are essentially those of standard cost-of-service regulation. If the main concern is equity, then pay-as-you-go is the right approach, with regulators' attempting to mitigate costs by using any leverage over the parties to the contracts to renegotiate. If the main concern is efficiency, then a fixed payment will cause the incumbent to renegotiate, as Judge Williams observes. The two objectives can be reconciled by choosing a fixed payment that takes into account the likelihood and magnitude of future mitigation. The expected value of costs to be recovered then would be deducted from the estimated payment for stranded costs. In that way, consumers would recover the

²¹⁷ *Id.*

expected gains from mitigation, and the incumbent's incentives for mitigation would be preserved.

F. Summary of the Limiting Principles

To establish a deregulatory taking, it should be necessary and sufficient for a regulated firm to show the existence of a regulatory contract; evidence of investment-backed expectations; the elimination of regulatory entry barriers; and a decline in the regulated firm's expected revenues. Actual experience in a number of regulated industries indicates that regulators have repeatedly recognized the implications of stranded cost recovery and have allowed such recovery in a manner consistent with our four limiting principles. Consistent with the facts and circumstances of particular industries, those regulators have afforded the incumbent utility the opportunity to recover costs stranded by regulatory change rather than exogenous declines in demand for the utility's services.

V

THE FALLACY OF FORWARD-LOOKING COSTS

We have explained elsewhere that it would be inefficient to price unbundled network elements at their total element long-run incremental cost (TELRIC) per unit or to price network interconnection at that service's total service long-run incremental cost (TSLRIC) per unit.²¹⁸ TSLRIC pricing and TELRIC pricing suffer from a host of shortcomings. Such pricing would not cover the firm's total direct costs, nor would it compensate the firm for its economic costs inclusive of opportunity costs. Competitive pricing does not emulate TSLRIC or TELRIC pricing. To the contrary, such pricing would invite free riding and would subsidize entrants, both conditions that competitive markets do not willingly tolerate. The imposition of TSLRIC or TELRIC pricing would create the perverse incentive for the incumbent LEC to reduce its common costs and shared costs. That action would be the direct response to the tendency of such pricing to shift attributable costs to shared costs and common costs, and to increase the incumbent LEC's shared costs and common costs as a result of unbundling. In addition to those failings, TSLRIC or TELRIC pricing does not permit the incumbent LEC to have dynamic pricing flexibility. Such pricing discriminates in favor of entrants and against the incumbent LEC. In short, the call to apply TSLRIC or TELRIC pricing to unbundled network elements, wholesale telecom-

²¹⁸ See *The Tragedy of the Telecommons*, *supra* note 6, at 1147-58.

munications services, and network interconnection is a mantra that misapprehends the most basic principles of price theory.

Regulators compound those problems if they base measures of incremental cost on irrelevant costs. As a general rule, one should not base economic decisions on costs and benefits that are irrelevant to those decisions; correspondingly, one should take into account all the costs and benefits that each decision entails. Thus, when comparing two alternatives, one should compare the benefits and costs associated with each decision, not the benefits or costs incurred in the past, present, or future that are not directly caused by the decisions.

First, consider costs that already have been incurred and are not recoverable. After costs are sunk, economic decisions should be based on *quasi rent*—that is, revenues net of avoidable cost. The “fallacy of sunk costs” refers to decisionmaking that takes into account irreversible expenditures.²¹⁹ That is a fallacy because those expenditures do not affect the benefits and costs associated with later decisions; thus, such expenditures should not enter into one’s decisionmaking process.

But cost fallacies need not center only on past costs. What we term the *fallacy of forward-looking costs* bases pricing and other economic decisions on future costs that are not related to those decisions, and it ignores costs that *are* related to those decisions. In its network pricing rules, the FCC’s notion of “forward-looking costs” is intended to emphasize that the fallacy of sunk costs should be avoided—that is, only the avoidable or future costs of decisions should be taken into account. The FCC, however, gets so carried away with projected costs that it recommends making decisions based on future costs that also are not affected by current decisions. Moreover, the fallacy of forward-looking costs ignores other costs that are affected by current decisions. The fallacy of forward-looking costs thus has two aspects. First, the decisionmaker takes into account costs that are irrelevant to the decision. Second, the decisionmaker ignores costs that are relevant to the decision, especially opportunity costs.

What are forward-looking costs? In its landmark *First Report and Order* on interconnection, the FCC defines forward-looking costs as “the costs that a carrier would incur in the future.”²²⁰ That definition is fine as far as it goes. The FCC then proposes three alternative measures for the cost of interconnection and unbundled network elements for LECs: (1) “the most efficient network architecture, sizing,

²¹⁹ See generally Joseph E. Stiglitz, *Economics* 44–45 (1993) (giving examples of sunk costs).

²²⁰ *First Report and Order*, *supra* note 34, ¶ 683, at 15,848.

technology, and operating decisions that are operationally feasible and currently available to the industry,"²²¹ (2) "existing network design and technology that are currently in operation,"²²² and (3) "the most efficient technology deployed in the incumbent LEC's current wire center locations."²²³ The FCC selected a measure that is a hybrid of options (1) and (3) consisting of "costs that assume that wire centers will be placed at the incumbent LEC's current wire center locations, but that the reconstructed local network will employ the most efficient technology for reasonably foreseeable capacity requirements."²²⁴ That measure of costs rests on economic fallacies.

A. *Putting the Cart Before the Horse*

A decision entails costs. The FCC, however, puts the cart before the horse by *embedding a decision within its definition of costs*. The decision is whether to expand capacity, contingent on two preconditions: that the LEC's current wire center locations are given and that the LEC has fully flexible capacity. Not coincidentally, those two assumptions correspond to a model employed by AT&T and other IXCs known as the Hatfield model, which assumes a "scorched-node" network, as if there were no existing loops or switches in place.²²⁵ Such assumptions are only meaningful if that is indeed the relevant decision, such as might be the case in rebuilding a local exchange network that had been seriously damaged by war or natural disaster. Otherwise, the FCC's cost definition will be off the mark. One could perhaps defend the need to make some choices as a means of operationalizing the cost measurement. The question, however, is whether the FCC's particular set of assumptions corresponds to the decisions to which the cost measure would be applied.

Such a hybrid cost measure is necessarily off the mark. First, it cannot represent the costs of an entrant, which can choose where to locate its wire centers, as in option (1). Thus, the cost measure is not relevant to the entry and operating decisions of a competitive entrant. Second, the cost measure cannot represent the costs of the incumbent, because the incumbent already has loops and switches in place, as in option (2). Thus, the cost measure is not relevant to the expansion and operating decisions of an incumbent LEC.

²²¹ Id.

²²² Id.

²²³ Id.

²²⁴ Id. ¶ 685, at 15,849.

²²⁵ See Hatfield Associates, Inc., Documentation of the Hatfield Model, Version 2.2, Release 1 (May 16, 1996).

B. *Jumping the Gun*

The forward-looking cost rhetoric is aimed at estimating the replacement cost of network assets, a laudable objective. In its pricing recommendations and cost estimation methods, however, the FCC paints an incorrect portrait of how competitive pricing works. Technological development and competitive entry occur with lags in competitive markets. Setting prices on the basis of competitors' costs is a good competitive strategy, but only when market alternatives are available. To use a "most efficient technology" standard, as the FCC recommends, is to jump the gun, because that standard is at variance with competitive markets.

To take a simple example, consider the evolution of semiconductors. The speed and computing power of each generation of computer chip has increased as chip manufacturers have developed new products such as Intel's 286, 386, 486, Pentium, and P6 chips. The price of a computer chip is highest when it is first introduced. The chip's price then begins a decline that depends in part on the rate of development of the next generation of chips; after the new chip is introduced, the price of the previous generation depends in part on the availability of the new chip. Thus, the pricing of chips is affected by the lags in developing new technology and lags in introducing products that embody the new technology. Existing products are not immediately devalued by new and improved substitutes. Rather, the adjustment process often is gradual.

If prices did not adjust gradually, there would be no incentive to engage in research and development or to invest in costly manufacturing to introduce any generation of products bearing new technology. Industry would be waiting for the next development before making a commitment. Thus, no progress would occur. Instead, because of lags, companies earn a return on the current technology in the interim period before the new technology becomes available; after the new technology is introduced, the development cycle continues. To imagine that prices fall immediately as a new technology is spotted over the horizon would be to eliminate any incentives for R&D and investment in production.

Consider pricing when technological change occurs that changes the cost of production. The firm expects its operating cost to be c_0 . Technological change occurs, and the operating cost of entrants is lower than that of the incumbent, say c_1 . Suppose that incumbents and entrants have the same entry costs k (although the same argument applies if entry costs change as well). The incumbent expects to charge a price p . Should it change its price after the technological

change occurs and the entrant's alternative makes its appearance? If the entrant does not have any capacity constraints, then c_t will be the new market price. If the entrant does face capacity constraints, then c_t will not be the new market price, which instead will fall with a lag. The lag is due to the adjustment costs of entry, which should be counted as part of the cost of the competitive alternative. Therefore, the price should not fall so as to reflect the entrant's economic costs as well as to provide incentives for entrants to incur the adjustment cost of entry. The incumbent's expectations would have taken that market lag into account. Thus, the best technology available is not a proper yardstick for the incumbent until the market alternative is no longer capacity-constrained. Put differently, the current market price reflects the projected cost of the alternative plus the adjustment cost associated with installing and adapting to the new production method.

The FCC is jumping the gun by recommending that access to the local exchange network reflect the most efficient technology before the market makes that technology available. The consequences of jumping the gun are to eliminate incentives for incumbents to expand and upgrade their networks and for entrants to establish facilities. The prices of existing network facilities should adjust at market-determined rates which reflect the availability of facilities that embody the most efficient technology available. Jumping the gun could slow down the introduction of the most efficient technology that the FCC uses as its benchmark.

Moreover, how will the FCC know what is really the most efficient technology? Experience in telecommunications shows that there is rapid technological change in computers, optical transmission, wireless transmission, and network design. It is not realistic to presume that a government agency is better equipped than market participants to sort out those technological changes to determine which technology is the best available or most efficient. The process of price adjustment to technological change cannot be predetermined by government fiat; it can only be revealed through market competition. Not only are there incentive problems that could forestall the very innovation that the FCC is attempting to predict, but the information required to make the prediction is beyond the capabilities of administrative decisionmaking.

C. Ignoring Investment-Backed Expectations

Consider a basic example. Suppose that to carry out production a firm must invest k dollars. Suppose that the investment k is irreversible, so that k represents sunk costs. The firm has operating costs c

and expects to earn revenues R . The firm's economic rent is defined as revenues net of operating cost and investment cost: $R - c - k$. Economic rent provides the incentive for entry. The firm's economic quasi rent is defined as net revenue: $R - c$. The quasi rent provides incentives to stay in the industry after entry costs have been sunk. Having sunk k , the firm decides whether or not to produce on the basis of its comparison of R and c only. It would manifest the fallacy of sunk costs for the firm to base the production decision on the magnitude of k . Thus, after k is sunk, only quasi rents—not economic rents—affect the firm's decision whether to produce the good.

That condition does not mean that pricing should not take into account costs k . The fallacy of forward-looking costs ignores the expectations of the investor when the decision to invest k is made. Thus, the fallacy of forward-looking costs would be to base the investment decision on quasi rents alone, ignoring the magnitude of k . *Before* the firm has sunk k , it is economic rents that count, not quasi rents.

Buyers and sellers enter into contracts on the basis of economic rents. The purpose of contract law is to allow efficient contracts to form. Otherwise, without the protection of contract law, buyers and sellers would be tempted to behave opportunistically, taking advantage of the reliance or irreversible investment of the other party. To illustrate that point, suppose that R is determined by a buyer and seller negotiating a contract before k is sunk. After the parties enter into the contract, one of the parties sinks cost k . The other party then has an incentive to behave opportunistically by offering a payment that is only slightly above c , thus capturing the investor's quasi rent. That situation cannot be justified by giving c the new label "forward-looking economic costs." Contract law protects the expectation, $R - c$, which equals the investor's quasi rent. If the seller anticipated that the buyer could reduce the payment to c after the contract was formed, then the seller would have no incentive to make a transaction-specific investment in the first place.

To complicate matters, suppose that a new technology appears such that the replacement cost of capacity is lower than k , say k_1 . Suppose that operating costs continue to equal c . The forward-looking costs of production are then equal to $c + k_1$. Again, that condition would not mean that the contract price should be reduced to forward-looking costs. The purpose of the contract is to protect the expectation interests of the buyer and seller. Thus, the price should remain at R . Forward-looking economic costs are not simply the firm's avoidable costs after it has made investments. If that were the case, there would be no transaction-specific investments.

It is now possible to see the efficiency of the expectation damage measure in contract law and its relation to the pricing of the regulated services of incumbent LECs, including interstate access. Suppose that the buyer contracts to pay R to the seller and another seller later appears with a better offer R_I . In other words, R_I is less than R . Contract law ensures efficient breach by allowing breach only if the buyer pays the original seller's expectation of $R - c$. That payment leads to efficient breach decisions because the buyer will breach the contract only if the offer from the new seller is lower than the operating cost of the original seller.²²⁶ The offer of the entrant must be lower than the avoidable cost of the incumbent for breach to be efficient. Contract law does not require paying the incumbent the offer of the entrant. To do so would simply be a transfer of income from the seller to the buyer and would not lead to efficient breach decisions. If the seller anticipated that the buyer could breach or pay the going rate whenever a lower price appeared, then the seller would have no incentive to make a transaction-specific investment.

In the regulated context, the expected revenue of the incumbent LEC happens to be based on embedded costs because, under cost-of-service regulation, the LEC's capital costs are necessarily used to calculate revenue requirements. That calculation does not mean that embedded costs are part of the firm's economic cost. Nevertheless, because the regulated firm's expected revenues reflect those costs, the expected revenues should be used to compensate the firm. The fact that the regulated firm's capital has a lower (or higher) replacement value in comparison with embedded cost is not relevant to the compensation decision. The embedded cost is a part of cost recovery because it underlies the incumbent firm's investment-backed expectation.

D. *The Janus Artifice*

Accompanying the fallacy of forward-looking costs is an inconsistency between the many cost definitions that regulators use and their analysis of competition. The Romans built temples to Janus, the ancient king who reigned in Italy, who was often represented with two faces because he was believed to know the past and the future.²²⁷ Like Janus, regulators alternate between past and future perspectives on markets as doing so serves their purpose. The result, which we call

²²⁶ That result obtains because the buyer will choose to breach if and only if $R > R - c + R_I$. That condition is equivalent to $c > R_I$.

²²⁷ See Lemprière's Classical Dictionary of Proper Names Mentioned in Ancient Authors Writ Large 304 (F.A. Wright ed., Routledge & Kegan Paul 3d ed. 1984) (1788).

the Janus Artifice, is an inconsistent economic analysis of competition and pricing.

When evaluating the prospects for competition, regulators often look to the past, emphasizing the sunk costs of the incumbent LECs and past market share.²²⁸ For pricing purposes, however, regulators look to the future, promoting their notion of forward-looking costs. Regulators can only compound the fallacies inherent in the forward-looking cost approach when they engage in shifts in perspective that are meant to facilitate desired policy outcomes. At a minimum, regulators should apply the forward-looking cost approach's yardstick in a consistent manner.²²⁹

E. Summary

Setting prices for mandatory network access on the basis of irrelevant costs manifests what we have dubbed "the fallacy of forward-looking costs." The forward-looking approach, as put forward by the FCC, departs further from economic costs in several ways. It specifies costs for a type of network expansion that is unlikely to occur. The forward-looking regulatory approach eagerly anticipates the effects of technological change before the market would make the innovations available. The forward-looking approach also ignores investment-backed expectations. Therefore, despite the appealing label, regulated pricing based on the FCC's forward-looking cost fails to reflect economic costs and necessarily departs from market pricing. Moreover, the FCC's forward-looking orientation is asymmetric. The agency advocates setting prices for mandatory network access on the basis of costs that look to the future, but it retains regulatory constraints on incumbent LECs (especially the RBOCs) on the basis of assessments of market power that look to the past.

²²⁸ A conspicuous example, which we discuss at length elsewhere, is the process under 47 U.S.C. § 271 by which an RBOC receives authority to offer interLATA service. See *Deregulatory Takings and the Regulatory Contract*, *supra* note 5, ch. 3.

²²⁹ Children know the Janus Artifice as the Pushmi-Pullyu Phenomenon, named for "the rarest animal of all," "now extinct," that "had no tail, but a head at each end." Hugh Lofting, *The Story of Doctor Dolittle 73* (Christopher Lofting ed., Bantam Doubleday Dell 1988) (1920). The pushmi-pullyu was very difficult to catch "because, no matter which way you came toward him, he was always facing you." *Id.*

VI
WINSTAR AND THE UNMISTAKABILITY
 OF THE REGULATORY CONTRACT

The Supreme Court's 1996 decision in *United States v. Winstar Corp.*,²³⁰ while not addressing a regulated network industry, does indicate how the Court would likely view a case involving recovery of stranded costs arising from breach of the regulatory contract in such an industry. Perhaps for that reason, public utility commissions have been quick to assert that *Winstar* is irrelevant to the restructuring of the regulated network industries.²³¹ It is not. To appreciate *Winstar's* relevance to the regulatory contract, it is necessary first to review the essential facts of the case.

Three thrifts sued the United States for breach of contract after they had been declared in violation of the capital requirements of the new Financial Institutions Reform, Recovery, and Enforcement Act of 1989²³² (FIRREA). The thrifts argued that savings and loan regulators had promised to indemnify them from the type of regulatory change that FIRREA produced. During the savings and loan crisis of the 1980s, the Federal Home Loan Bank Board sought to induce healthy thrifts to merge with failing ones. The Board signed agreements with the healthy thrifts that allowed them to count the excess of the purchase price over the fair market value of the acquired assets as an intangible asset—"supervisory goodwill"—that counted toward fulfilling capital reserve requirements. The Board agreed to allow the healthy thrifts to amortize supervisory goodwill over twenty-five to forty years—an extended period that would give the healthy thrifts a reasonable opportunity to recover their costs of rehabilitating the sick thrifts. Without those regulatory agreements, the thrifts created by the mergers would have violated the capital reserve requirements. Thus, the healthy thrifts' investment in the sick thrifts never would have happened. Overall, however, the Board's practice of encourag-

²³⁰ 116 S. Ct. 2432 (1996).

²³¹ For example, New Hampshire's commission stated in 1997:

Although *Winstar* has become a new rhetorical arrow in our utilities' empty quiver, *Winstar* need not give us pause. In *Winstar*, the threshold question, "whether there were contracts at all between the government and respondents" was not before the Court. Therefore the case is of no assistance in determining whether a contract exists.

Restructuring New Hampshire's Electric Utility Industry, 175 Pub. Util. Rep. 4th (PUR) 193, 279 (N.H. P.U.C. 1997) (citation omitted). But see Electric Utility Industry Restructuring, No. 95-462, 1996 WL 467779, at *23 n.17 (Me. P.U.C. July 19, 1996) ("While not directly applicable, . . . [*Winstar*] suggests, at least, that government should act responsibly in changing the 'rules of the game.'" (citation omitted)).

²³² Pub. L. No. 101-73, 103 Stat. 183 (codified as amended in scattered sections of 2, 5, 12, 15, 18, 26, 28, 31, 40, 42, 44 U.S.C. (1994)).

ing such merged thrifts turned out to be a failure and promised to lead to the insolvency of federal deposit insurance funds for the thrifts. Eventually, Congress enacted FIRREA, which forbade thrifts from counting supervisory goodwill toward capital requirements. Regulators promptly seized and liquidated two of the three plaintiff thrifts in *Winstar* for failing to comply with the new capital reserve requirements; the third avoided seizure only by aggressively recapitalizing.

A plurality of the Supreme Court upheld the determination by the U.S. Court of Appeals for the Federal Circuit that the government had breached contractual obligations to the thrifts and was liable for breach of contract. One of the government's defenses was the "unmistakability" doctrine, under which surrenders of sovereign authority, to be enforceable, must appear in unmistakable terms in a contract. Justices Souter, Stevens, O'Connor, and Breyer found that the defense did not apply to the contracts at issue, because the plaintiffs were suing not to stop the government from changing capital reserve requirements applicable to thrifts, but only to compel the government to indemnify them for the effects of such changes.²³³ Justices Scalia, Kennedy, and Thomas did not accept that distinction between injunctive relief and damages but nonetheless found that the particular contracts at issue established that the government had unmistakably agreed to indemnify the thrifts.²³⁴ Chief Justice Rehnquist dissented in an opinion partially joined by Justice Ginsburg.²³⁵

Writing for the plurality, Justice Souter reasoned that application of the unmistakability defense "would place the doctrine at odds with the Government's own long-run interest as a reliable contracting partner in the myriad workaday transaction of its agencies."²³⁶ The government would lose its ability to make credible commitments. "Injecting the opportunity for unmistakability litigation into every common contract action," Justice Souter wrote, "would . . . produce the untoward result of compromising the Government's practical capacity to make contracts, which we have held to be 'of the essence of sovereignty' itself."²³⁷ He further explained:

The Court has often said, as a general matter, that the "rights and duties" contained in a government contract "are governed generally by the law applicable to contracts between private individuals." . . .

This approach is unsurprising, for in practical terms it ensures that the Government is able to obtain needed goods and services from

²³³ See *Winstar*, 116 S. Ct. at 2458 (Souter, J., plurality opinion).

²³⁴ See *id.* at 2476-77 (Scalia, J., concurring).

²³⁵ See *id.* at 2479 (Rehnquist, C.J., dissenting).

²³⁶ *Id.* at 2459.

²³⁷ *Id.* (quoting *United States v. Bekins*, 304 U.S. 27, 51-52 (1938)).

parties who might otherwise, quite rightly, be unwilling to undertake the risk of government contracting.²³⁸

The plurality's reasoning in *Winstar* is directly analogous to the contractual issues that result from the mandatory unbundling of regulated network industries. Justice Souter noted that it was particularly important to treat the government's contracts with regulated firms as binding:

It is important to be clear about what these contracts did and did not require of the Government. Nothing in the documentation or the circumstances of these transactions purported to bar the Government from changing the way in which it regulated the thrift industry. Rather . . . "the Bank Board and the FSLIC [the federal savings and loan insurance fund] were contractually bound to recognize the supervisory goodwill and the amortization periods reflected" in the agreements between the parties. We read this promise as the law of contracts has always treated promises to provide something beyond the promisor's absolute control, that is, as a promise to insure the promisee against loss arising from the promised condition's nonoccurrence. . . . *Contracts like this are especially appropriate in the world of regulated industries, where the risk that legal change will prevent the bargained-for performance is always lurking in the shadows.*²³⁹

That admonition is compelling where the government wishes to use contract as an instrument of regulation: "Since the facts of the present case demonstrate that Government may wish to further its regulatory goals through contract, we are unwilling to adopt any rule of construction that would weaken the Government's capacity to do business by converting every contract it makes into an arena for unmistakability litigation."²⁴⁰ Thus, Justice Souter's reasoning in *Winstar* would apply even more forcefully to a regulated electric utility—which has made enormous, nonsalvageable investments in long-lived assets such as generation plants, transmission grids, and distribution networks—or to a LEC, which has made analogous investments in switching and transport facilities. Clearly, the logic of Justice Souter's plurality opinion extends to agreements that state or municipal regulators have made with private parties. It is permissible to bind those regulators even to commitments that are not "unmistakable" if the regulated firm seeks not to enjoin a change in regulatory policy, but only to receive financial compensation for the harm resulting from

²³⁸ *Id.* at 2473 (quoting *Lynch v. United States*, 292 U.S. 571, 579 (1934)).

²³⁹ *Id.* at 2451–52 (emphasis added) (citation omitted) (quoting *Winstar Corp. v. United States*, 64 F.3d 1531, 1541–42 (Fed. Cir. 1995) (en banc)).

²⁴⁰ *Id.* at 2460.

such change. Such a rule describes the situation in which an electric utility or LEC seeks not to enjoin statutes or regulations mandating network unbundling, but only to receive compensation for the stranded costs that result from such new laws.

More important than that distinction between remedies were Justice Souter's concluding remarks underscoring the Court's need to consider the contracts in the broader context of the parties' intent:

It would . . . have been madness for [the healthy thrifts] to have engaged in these transactions with no more protection than the Government's reading [of the contracts] would have given them, for the very existence of their institutions would then have been in jeopardy from the moment their agreements were signed.²⁴¹

The same reasoning about contractual intent permeated the Court's interpretations of the regulatory contract in the late nineteenth and early twentieth centuries. Not surprisingly, in *Winstar*, Justice Souter²⁴²—and Justice Breyer in his concurrence²⁴³—relied upon those decisions construing the regulatory contract. Although Justice Souter could

imagine cases in which the potential gain might induce a party to assume a substantial risk that the gain might be wiped out by a change in the law, it would have been irrational in this case for [one of the healthy thrifts] to stake its very existence upon continuation of current policies without seeking to embody those policies in some sort of contractual commitment.²⁴⁴

Justice Scalia believed that an enforceable duty imposed on the government to pay damages in the event of breach would “constrain the exercise of sovereign power” as much as compelling the government to perform the contract.²⁴⁵ He thought that the unmistakability doctrine “has little if any independent legal force beyond what would be dictated by normal principles of contract interpretation.”²⁴⁶ In Justice Scalia's view, the doctrine “is simply a rule of presumed (or implied-in-fact) intent.”²⁴⁷ He then offered a stark presumption of contract interpretation. Whereas Justice Souter feared that the gov-

²⁴¹ *Id.* at 2472.

²⁴² See *id.* at 2449 (citing *The Binghamton Bridge*, 70 U.S. (3 Wall.) 51, 78 (1866) for the proposition that the Court has “refus[ed] to construe charter in such a way that it would have been ‘madness’ for private party to enter into it”).

²⁴³ See *id.* at 2472–73 (Breyer, J., concurring) (citing *Russell v. Sebastian*, 233 U.S. 195, 205 (1914); *Detroit v. Detroit Citizens' St. Ry. Co.*, 184 U.S. 368, 384 (1902); *The Binghamton Bridge*, 70 U.S. (3 Wall.) at 74).

²⁴⁴ *Id.* at 2449 (Souter, J., plurality opinion).

²⁴⁵ *Id.* at 2476 (Scalia, J., concurring).

²⁴⁶ *Id.* at 2477.

²⁴⁷ *Id.*

ernment might lose its ability to make credible commitments, Justice Scalia implicitly assumed that the government had already lost it:

Generally, contract law imposes upon a party to a contract liability for any impossibility of performance that is attributable to that party's own actions. That is a reasonable estimation of what the parties intend. When I promise to do *x* in exchange for your doing *y*, I impliedly promise not to do anything that will disable me from doing *x*, or disable you from doing *y*—so that if either of our performances is rendered impossible by such an act on my part, I am not excused from my obligation. When the contracting party is the government, however, it is simply *not* reasonable to presume an intent of that sort. To the contrary, it is reasonable to presume (*unless the opposite clearly appears*) that the sovereign does *not* promise that none of its multifarious sovereign acts, needful for the public good, will incidentally disable it or the other party from performing one of the promised acts. The requirement of unmistakability embodies this reversal of the normal reasonable presumption. Governments do not ordinarily agree to curtail their sovereign or legislative powers, and contracts must be interpreted in a common-sense way against that background understanding.²⁴⁸

If it were unreasonable *as a matter of law* for a private party to trust the government's contractual promise, contract negotiations with the government would entail higher transaction costs and private parties to such contracts would demand a substantial risk premium, as such parties do when contracting with the governments of politically unstable nations.

Justice Scalia's skepticism about the appropriate legal presumption concerning contractual intent did not prevent him from concluding that the three thrifts had "overcome this reverse-presumption that the Government remains free to make its own performance impossible through its manner of regulation."²⁴⁹ In reasoning reminiscent of the Court's early interpretations of regulatory contracts in cases such as *The Binghamton Bridge*,²⁵⁰ *Walla Walla City v. Walla Walla Water Co.*,²⁵¹ *Russell v. Sebastian*,²⁵² and *Detroit v. Detroit Citizens' State Railway Co.*,²⁵³ Justice Scalia agreed with the thrifts that "the very *subject matter* of these agreements, an essential part of the *quid pro quo*, was government regulation" and that "unless the Government is bound *as to that regulation*, an aspect of the transactions that reason-

²⁴⁸ *Id.* (emphasis in original).

²⁴⁹ *Id.*

²⁵⁰ 70 U.S. (3 Wall.) 51, 73-75 (1866).

²⁵¹ 172 U.S. 1, 17-18 (1898).

²⁵² 233 U.S. 195, 206-08 (1914).

²⁵³ 184 U.S. 368, 385 (1902).

ably must be viewed as a *sine qua non* of their assent becomes illusory.”²⁵⁴ He rejected the notion that “unmistakability demands that there be a *further* promise not to go back on the promise to accord favorable regulatory treatment.”²⁵⁵ The unmistakability doctrine does not require a private party to demand “the Government’s promise to keep its promise.”²⁵⁶ Echoing as Justice Souter did the reasoning in the Court’s early decisions on regulatory contracts, Justice Scalia stressed the relationship between cost recovery, contract duration, and consideration:

[I]t is quite impossible to construe these contracts as providing for only ‘short term’ favorable treatment, with the long term up for grabs: either there was an undertaking to regulate [the healthy thrifts] as agreed for the specified amortization periods, or there was no promise regarding the future at all—not even so much as a peppercorn’s worth.²⁵⁷

What conclusions does one therefore draw from reconciling Justice Souter’s plurality opinion with Justice Scalia’s concurrence? Only four Justices in *Winstar* would interpret the unmistakability doctrine to permit damage remedies in cases where it was not unmistakable that the government had contracted to retain an existing regulatory regime for the benefit of the regulated firm. Of far greater consequence for the restructuring of the regulated network industries, however, is the fact that seven Justices—Breyer, Kennedy, O’Connor, Scalia, Souter, Stevens, and Thomas—supported their divergent legal conclusions with the same economic reasoning that stressed cost recovery, incentive for investment, opportunism, and the government’s need to make credible commitments. In that important respect, *Winstar* builds on the intellectual foundation that such Justices as Holmes, Hughes, Harlan, and Taft laid more than a century earlier to construe the rights and remedies of public utilities under their regulatory contracts with municipalities. *Winstar* confirms the continued vitality of the reasoning in those early decisions.

²⁵⁴ *Winstar*, 116 S. Ct. at 2477 (emphasis in original).

²⁵⁵ *Id.* (emphasis in original).

²⁵⁶ *Id.* at 2478.

²⁵⁷ *Id.* at 2477–78.

VII
RESTORING CREDIBLE COMMITMENTS THROUGH
THE SECURITIZATION OF STRANDED COSTS

As we briefly noted in our previous article,²⁵⁸ and as we explain in greater detail elsewhere,²⁵⁹ the recovery of stranded costs requires a competitively neutral and nonbypassable end-user charge even if the regulator permits the incumbent utility to employ M-ECPR pricing. One would expect the specific design of the end-user charge to differ from one jurisdiction to the next, just as the specific design of incentive regulation already does. But one development from the restructuring of the electric industry in Pennsylvania—the issuance of *transition bonds*—may emerge as a dominant feature in the overall design of such cost recovery programs. Perhaps because of the novelty of the Pennsylvania approach, state public utility commissions and the FCC seem not to have considered the relevance of transition bonds to resolving the disputes over cost recovery that have arisen under the pricing provisions of the Telecommunications Act of 1996.

Under the transition bond approach, the electric utility establishes in a regulatory proceeding the extent of its recoverable stranded costs, given the pricing regime that regulators have imposed for mandatory unbundled access to the firm's network. Under Pennsylvania's Electricity Generation Customer Choice and Competition Act of 1996,²⁶⁰ that amount of recoverable costs becomes *intangible transition property*.²⁶¹ The regulator then authorizes the utility to securitize those stranded costs and issues, on an expedited basis, a qualified rate order permitting the utility to service the resulting bonds through a new *intangible transition charge* (ITC) that the utility will impose on end users in a competitively neutral and nonbypassable manner.²⁶² The regulator designs the competitive transition charge to expire as the transition bonds mature. Intangible transition property

²⁵⁸ See *Deregulatory Takings*, supra note 1, at 978.

²⁵⁹ See *Deregulatory Takings and the Regulatory Contract*, supra note 5, ch. 9; *The Tragedy of the Telecommons*, supra note 6, at 1104–05.

²⁶⁰ 66 Pa. Cons. Stat. Ann. §§ 2801–2812 (West Supp. 1997).

²⁶¹ See id. § 2812(c), (g) (defining “intangible transition property”).

²⁶² See id. § 2812(a)–(c). The Pennsylvania legislation defines intangible transition charges as:

The amounts authorized to be imposed on all customer bills and collected, through a nonbypassable mechanism by the electric utility or its successor or by any other entity which provides electric service to a person that was a customer of an electric utility located within the certificated territory of the electric utility on the effective date of this chapter or that, after this effective date of this chapter, became a customer of electric services within such territory and is still located within such territory, to recover qualified transition expenses pursuant to a qualified rate order.

represents "the irrevocable right of the electric utility or an assignee to receive through intangible transition charges amounts sufficient to recover all of its qualified transition expenses."²⁶³

What do the creation of intangible transition property and the issuance of the transition bonds accomplish that the regulator could not accomplish simply by authorizing the utility to impose a (correctly calculated) end-user charge and use the proceeds to recoup its stranded costs over time? The answer relates to the ability of government to make credible commitments, which is critical to eliciting the private investment in nonsalvageable infrastructure that was the *raison d'être* of the regulatory contract a century ago.²⁶⁴ The proceeds from the bond issuance would enable the incumbent utility to recoup its stranded costs immediately. The utility would use the bonds to shift the risk of stranded cost recovery from current shareholders to a new class of consenting bondholders, whose recourse relative to other creditors would presumably be limited to the stream of revenues that the ITC would produce. The incumbent utility could no longer oppose immediate competitive entry on grounds of cost recovery. But how could the new holders of transition bonds be confident that the regulator would not destroy the value of those bonds by renegeing on the ITC rate order—all in the name of lowering the consumer's total bill for electricity? What would prevent the regulator from simply substituting its repudiation of the ITC for its repudiation of the underlying regulatory contract?

Under the Pennsylvania plan, the Commonwealth does not guarantee the transition bonds. Nonetheless, the capital markets would provide, through the price that it set for those marketable securities, a continuous estimate of the likelihood that the state would renege on its promise embodied in the rate order authorizing the securitization and the ITC. Moreover, services such as Moody's and Standard & Poor's would continuously rate the risk that the state would interfere with the sole revenue stream servicing the transition bonds. Through bond prices and bond ratings, the capital markets would quantify the expectation of regulatory opportunism on a state-by-state basis, much in the way that the premiums for political risk insurance vary from one country to the next. The issuance of transition bonds would cre-

Id. § 2812(g). The statutory definition includes the following proviso concerning cross-subsidies: "The amounts shall be allocated to customer classes in a manner that does not shift interclass or intraclass costs and maintains consistency with the allocation methodology for utility production plant accepted by the commission in the electric utility's most recent base rate proceeding." Id.

²⁶³ Id.

²⁶⁴ See *Deregulatory Takings and the Regulatory Contract*, *supra* note 5, ch. 4.

ate a security for which the principal risk would be relatively free from "noise" and causal ambiguity. Risk would not arise from competitors or from exogenous changes in technology or market demand, but rather from regulatory opportunism. Transition bonds, in short, would enable the capital markets to regulate the regulators.

Given the capital markets' intense level of scrutiny, regulatory opportunism by the state commission or the Commonwealth of Pennsylvania would incur an immediate, conspicuous cost to reputation that would be continuously measurable through the price of the transition bonds. Not surprisingly, therefore, the Pennsylvania legislation contains the following promise that the Commonwealth will refrain from regulatory opportunism:

The Commonwealth pledges to and agrees with the holders of any transition bonds issued under this section and with any assignee or financing party who may enter into contracts with an electric utility under this section that the Commonwealth will not limit or alter or in any way impair or reduce the value of intangible transition property or intangible transition charges approved by a qualified rate order until the transition bonds and interest on the transition bonds are fully paid and discharged or the contracts are fully performed on the part of the electric utility. Subject to other requirements of law, nothing in this paragraph shall preclude limitation or alteration if adequate compensation is made by law for the full protection of the intangible transition charges collected pursuant to a qualified rate order and of the holder of this transition bond and any assignee or financing party entering into contract with the electric utility.²⁶⁵

The interpretation and enforceability of that regulatory promise would surely admit less gainsaying by lawyers than the regulatory contract's earlier promise to the utility that the regulator would permit the firm a reasonable opportunity to recover its costs and earn a competitive return on such costs. In a word, Pennsylvania's novation of the regulatory contract, backed by the discipline of the capital markets, would increase the likelihood of preserving the original investment-backed expectations of utility shareholders.

²⁶⁵ *Id.* § 2812(c)(2). In addition, the legislation gives the state commission greater power to commit itself credibly to the recovery of stranded costs:

Notwithstanding any other provision of law, the commission has the power to specify that all or a portion of a qualified rate order shall be irrevocable. To the extent so specified, neither the order nor the intangible transition charges authorized to be imposed and collected under the order shall be subject to reduction, postponement, impairment or termination by any subsequent action of the commission. Nothing in this paragraph is intended to supersede the right of any party to judicial review of the qualified rate order.

Id. § 2812(b)(3).

VIII
THE EIGHTH CIRCUIT'S 1997 DECISION IN *IOWA*
UTILITIES BOARD

In July 1997, the U.S. Court of Appeals for the Eighth Circuit issued its long-awaited decision in *Iowa Utilities Board v. FCC*,²⁶⁶ in which the court vacated, after having stayed nine months earlier,²⁶⁷ the pricing provisions of the FCC's *First Report and Order*.²⁶⁸ In an opinion by Judge David R. Hansen, the court held that "the FCC exceeded its jurisdiction in promulgating the pricing rules regarding local telephone service."²⁶⁹ Accordingly, the court vacated the FCC's pricing rules "on that ground alone" and did not review the rules on their merits.²⁷⁰ Nonetheless, the court upheld certain key provisions of the *First Report and Order* concerning unbundling of network elements, on which the court concluded the FCC did have jurisdiction and was entitled to the reviewing court's deference under the *Chevron* doctrine.²⁷¹

The Eighth Circuit's affirmation of those unbundling provisions may prove to be more important than its invalidation of the FCC's pricing rules. By the end of 1996, most state commissions had issued interim pricing orders for unbundled elements and resale that mirrored the TELRIC methodology and proxy rates of the *First Report and Order* without purporting to be legally bound by the order. The FCC, in other words, succeeded in setting the intellectual agenda for state regulators, even if the agency was destined to lose the turf battle over jurisdiction. At the same time, the Eighth Circuit deferred to the FCC's unbundling rules and embraced the reasoning of the agency and entrants concerning the probable effects of those rules on competition, investment, and innovation.

The court did not consider whether the FCC's unbundling rules effected a taking, because the court ruled the question not yet ripe for adjudication.²⁷² In a footnote, the court noted but did not evaluate the argument advanced by incumbent LECs "that the TELRIC method underestimates their costs to provide interconnection and un-

²⁶⁶ 120 F.3d 753 (8th Cir. 1997).

²⁶⁷ See *Iowa Utils. Bd. v. FCC*, 109 F.3d 418 (8th Cir. 1996).

²⁶⁸ *First Report and Order*, supra note 34.

²⁶⁹ *Iowa Utils. Bd.*, 120 F.3d at 792.

²⁷⁰ See *id.* at 800. The rules vacated were 47 C.F.R. §§ 51.501-51.515 (inclusive, except section 51.515(b)), 51.601-51.611 (inclusive), and 51.701-51.717 (inclusive). See *Iowa Utils. Bd.*, 120 F.3d at 800.

²⁷¹ *Chevron U.S.A. Inc. v. Natural Resources Defense Council, Inc.*, 467 U.S. 837, 842-45 (1984).

²⁷² See *Iowa Utils. Bd.*, 120 F.3d at 818.

bundled access and results in prices that are too low, effectively requiring them to subsidize their new local service competitors."²⁷³

We consider now how several of the Eighth Circuit's more significant rulings concerning the FCC's unbundling rules relate to the major themes that we have developed in this Article.

A. *The Scope of the Definition of a Network Element*

The Eighth Circuit agreed with the FCC's decision to define *network element* broadly.²⁷⁴ The court ruled that "the Act's definition of network elements is not limited to only the physical components of a network that are directly used to transmit a phone call from point A to point B."²⁷⁵ Rather, the definition "includes the technology and information used to facilitate ordering, billing, and maintenance of phone service—the functions of operational support systems."²⁷⁶ The Eighth Circuit also concluded that the information and databases of such systems "constitute features, functions, and capabilities that are provided through the use of software and hardware that is used in the commercial offering of telecommunication services to the public."²⁷⁷ The court similarly concluded that operator services, directory assistance, caller I.D., call forwarding, and call waiting are network elements that are subject to unbundling, even if one were to label those capabilities "services" rather than "elements."²⁷⁸

The conclusion that technology or information can constitute a network element subject to mandatory unbundling has broad implications. As we explained earlier, dynamic inefficiency would result from mandating access to the incumbent's information at prices set at TELRIC plus a slight contribution to common costs, for the firm's underlying decision to make the investment necessary to create the technology or information would depend on its expectation of earning economic rent on its outlays. As Part V explained, without the prospect of earning economic rent, there would be no incentive for those

²⁷³ Id. at 793 n.8.

²⁷⁴ See id. at 808 (citing First Report and Order, *supra* note 34, ¶ 263, at 15,633-34, ¶ 413, at 15,707). The Telecommunications Act defines a network element as a facility or equipment used in the provision of a telecommunications service. Such term also includes features, functions, and capabilities that are provided by means of such facility or equipment, including subscriber numbers, databases, signaling systems, and information sufficient for billing and collection or used in the transmission, routing, or other provision of a telecommunications service.

Id. (quoting 47 U.S.C.A § 153(29) (West Supp. 1997)).

²⁷⁵ *Iowa Utils. Bd.*, 120 F.3d at 808.

²⁷⁶ Id.

²⁷⁷ Id. at 809.

²⁷⁸ See id. at 809-10.

investments. Because it had invalidated the FCC's pricing rules, the Eighth Circuit evidently presumed that it did not need to devote any special consideration to the peculiar problem of mandating access to information at regulated prices. Yet those regulated prices would threaten to deny the incumbent LEC its expectation of earning the economic rents that were the prerequisite for its making that investment.

B. "Technically Feasible" Unbundling

The Eighth Circuit affirmed the FCC's interpretation of the statutory requirement that interconnection and unbundled access occur "at any technically feasible point."²⁷⁹ The agency had ruled that "determination of technical feasibility does not include consideration of economic, accounting, billing, space, or site concerns."²⁸⁰ As we have explained at length elsewhere, however, finer and finer partitioning of the network into technically feasible unbundled elements increases the likelihood that pricing based on the FCC's TELRIC methodology will fail to compensate the incumbent LEC for shared costs incurred across subsets of the firm's elements.²⁸¹

In concluding that the FCC's definition of "technically feasible" was reasonable and entitled to deference under *Chevron*, the Eighth Circuit did not consider the difficulty that the incumbent LEC might encounter in recovering that cost by noting that the LEC was entitled to compensatory prices for its unbundled elements.²⁸² If the process of cost recovery were that simple—and if it were clear that "the FCC's definition of 'technically feasible' [would] not unduly burden the incumbent LECs,"²⁸³ as the Eighth Circuit concluded—then the local competition provisions of the 1996 legislation would not have become mired in litigation within weeks of the FCC's release of the *First Report and Order*. In essence, the Eighth Circuit took the rather unrealistic view that the FCC's unbundling rules and the pricing of

²⁷⁹ See *id.* at 809-10 (approving FCC's interpretation of quoted language from 47 U.S.C.A. § 251(c)(2), (c)(3) (West Supp. 1997)).

²⁸⁰ 47 C.F.R. § 51.5 (1996).

²⁸¹ See *The Tragedy of the Telecommons*, *supra* note 6, at 1152-56.

²⁸² The court noted that:

Although economic concerns are not to be considered in determining if a point of interconnection or unbundled access is technically feasible, the costs of such interconnection or unbundled access will be taken into account when determining the just and reasonable rates, terms, and conditions for these services. Under the Act, an incumbent LEC will recoup the costs involved in providing interconnection and unbundled access from the competing carriers making these requests.

Iowa Utils. Bd., 120 F.3d at 810 (citing 47 U.S.C.A. § 251(c)(2), (c)(3) (West Supp. 1997)).

²⁸³ *Id.*

unbundled elements (according to either FCC or state PUC rules) operate independently of one another. That assumption is false. The lower the price of unbundled elements, the greater the amount and scope of network unbundling that entrants will demand. And the greater the extent of unbundling, the harder it will become for the incumbent LEC to recover its total forward-looking costs.

C. The Quality of Unbundled Access and Its Relationship to Forward-Looking Costs

The Eighth Circuit vacated the FCC's rule that incumbent LECs provide unbundled access "at levels of quality that are superior to those levels at which the incumbent LECs provide these services to themselves, if requested to do so by competing carriers."²⁸⁴ Those rules "violated the plain terms" of section 251(c) of the Telecommunications Act, which provides instead that unbundled access be "at least equal in quality" to the access that the incumbent LEC supplies to itself.²⁸⁵ That ruling is also relevant to the FCC's approach to calculating forward-looking costs. The *First Report and Order* defines forward-looking costs as "the costs that a carrier would incur in the future,"²⁸⁶ based on the critical "scorched-node" assumption that "wire centers will be placed at the incumbent LEC's current wire center locations, but that the reconstructed local network will employ the most efficient technology for reasonably foreseeable capacity requirements."²⁸⁷ After noting as a matter of statutory construction that section 251(c) "mandates only that the quality be equal—not superior," the Eighth Circuit added that "subsection 251(c)(3) implicitly requires unbundled access only to an incumbent LEC's *existing* network—not to a yet unbuilt superior one."²⁸⁸

The court did not need to explain the implications of that insight for the FCC's method of calculating forward-looking costs, because the court had already vacated on jurisdictional grounds the pricing rules that were the reason for the FCC's cost calculations in the first place. Nonetheless, if the incumbent LEC need not offer unbundled access to a "yet unbuilt superior" network, it would be surprising if it had to price access to its *existing* network on the basis of the projected costs of that "yet unbuilt superior" network. In short, even without addressing the merits of the FCC's pricing rules, the Eighth Circuit cast doubt on the lawfulness of calculating prices for unbundled ele-

²⁸⁴ Id. at 812 (citing 47 C.F.R. §§ 51.305(a)(4), 51.311(c) (1996)).

²⁸⁵ See id. at 812-13 (citing 47 U.S.C.A. § 251(c) (West Supp. 1997)).

²⁸⁶ First Report and Order, supra note 34, ¶ 683, at 15,848.

²⁸⁷ Id. ¶ 685, at 15,848-49.

²⁸⁸ *Iowa Utils. Bd.*, 120 F.3d at 813 (emphasis added).

ments on the basis of the FCC's scorched-node version of forward-looking costs.

D. *Recombination of Unbundled Elements*

The Eighth Circuit affirmed the FCC's ruling that the Telecommunications Act permits a firm to offer telecommunications services that consist entirely of a recombination of the incumbent LEC's unbundled elements.²⁸⁹ Incumbent LECs had argued that Congress intended resale of services to be the exclusive means by which entry would occur if the entrant provided no elements on its own. As we have explained elsewhere, the controversy over recombination of elements has practical competitive significance *only* if the regulator forces the incumbent LEC to compute the price of either resale or unbundled elements incorrectly and thus creates an opportunity for entrants to engage in arbitrage.²⁹⁰

Although linguistic analysis ostensibly sufficed to produce the Eighth Circuit's holding that the FCC had reasonably interpreted section 251(c)(3), the court nonetheless attempted to bolster its holding with economic reasoning. That economic analysis, however, reflected the fact that, by disposing of the *First Report and Order's* pricing rules on jurisdictional grounds, the court evidently did not fully comprehend (because it had no need to do so) how those rules would influence entry and investment. The court reasoned:

Carriers entering the local telecommunications markets by purchasing unbundled network elements face greater risks than those carriers that resell an incumbent LEC's services. A reseller can more easily match its supply with its demand because it can purchase telephone services from incumbent LECs on a unit-by-unit basis. Consequently, a reseller is able to purchase only as many services (or as much thereof) as it needs to satisfy its customer demand. A carrier providing services through unbundled access, however, must make an up-front investment that is large enough to pay for the cost of acquiring access to all of the unbundled elements of an incumbent LEC's network that are necessary to provide local telecommunications services without knowing whether consumer demand will be sufficient to cover such expenditures. Moreover, our decision requiring the requesting carriers to combine the elements themselves increases the costs and risks associated with unbundled access as a

²⁸⁹ See *id.* at 813-14 (citing *First Report and Order*, *supra* note 34, ¶¶ 328-41, at 15,666-71). The court held that "under subsection 251(c)(3) a requesting carrier is entitled to gain access to all of the unbundled elements that, when combined by the requesting carrier, are sufficient to enable the requesting carrier to provide telecommunications services." *Id.* at 815.

²⁹⁰ See *The Tragedy of the Telecommons*, *supra* note 6, at 1105-06.

method of entering the local telecommunications industry and simultaneously makes resale a distinct and attractive option. With resale, a competing carrier can avoid expending valuable time and resources recombining unbundled network elements.²⁹¹

The Eighth Circuit's economic reasoning is not persuasive. First, the entrant will surely target its entry, such that its scale and geographic focus will permit it to buy or lease elements (such as switches) as soon as it becomes more efficient for the firm to do so. Regulators will typically not force a competitive LEC to serve all segments of the market. The entrant is free to use a combination of resale and unbundling. It will purchase elements where its expected scale of operation permits (such as in business districts) and procure the incumbent LEC's service on a wholesale basis elsewhere. Thus, the entrant's risk will be lower, even when assembling unbundled elements, than the Eighth Circuit's discussion presumes.

Second, nothing prevents several entrants from reducing risk by sharing a switch and spreading its fixed cost among their respective customers. Similarly, there are facilities-based providers of local transport—such as MFS and Teleport—that can lease capacity to the entrant. Certainly in the case of competitive access providers, the fiber-ring architecture of those firms' networks may make the firms more efficient suppliers of transport than the incumbent LECs.

Third, scale is surely not an issue for the most important unbundled element—the customer loop. The risk to the entrant of leasing an unbundled loop to serve a particular customer is minimal. If the customer were to switch to another carrier, the entrant would simply not renew its lease of that loop from the incumbent LEC.

E. Unbundling and the Purpose of the Telecommunications Act of 1996

Near the end of its opinion, the Eighth Circuit offered an extended discussion of the role that mandatory network unbundling plays in the Telecommunications Act of 1996.²⁹² The court rejected arguments that, under the FCC's unbundling rules, "competing carriers will have no incentive to construct their own facilities" and "neither the competing carriers nor the incumbent LECs will attempt to innovate their technology."²⁹³ The Eighth Circuit believed that those arguments assumed "that the FCC's unbundling rules would op-

²⁹¹ *Iowa Utils. Bd.*, 120 F.3d at 815.

²⁹² Pub. L. No. 104-104, 110 Stat. 56 (to be codified in scattered sections of 15, 18, 47 U.S.C.).

²⁹³ *Iowa Utils. Bd.*, 120 F.3d at 816.

erate in conjunction with the Commission's proposed pricing rules."²⁹⁴ The court reasoned that, because it had "vacated the FCC's pricing rules and determined that the Act requires state commissions to set the rates that competing carriers must pay for access to incumbent LECs' networks,"²⁹⁵ the court could not "know what the state-determined rates will be."²⁹⁶ Oddly, the court did not mention the pricing methodology that the state PUCs had employed in their many interim rate decisions on resale and unbundling in late 1996 and early 1997. Instead, the Eighth Circuit concluded that the argument that "competing carriers will incur only minimal costs in gaining access to incumbent LECs' networks and have no incentive to build their own is merely speculative at best."²⁹⁷

The Eighth Circuit next stated that, "[e]ven if the states establish 'inexpensive' rates," the unbundling rules in the *First Report and Order* would not violate the Telecommunications Act's purpose because, the court concluded, that legislation's "exclusive goal" is not to promote facilities-based competition.²⁹⁸ To the contrary, the court reasoned,

Congress recognized that the amount of time and capital investment involved in the construction of a complete local stand-beside telecommunications network are substantial barriers to entry, and thus required incumbent LECs to allow competing carriers to use their networks in order to hasten the influence of competitive forces in the local telephone business.²⁹⁹

The court's reasoning, however, contained several flaws. It is unlikely that any one entrant would construct "a complete local stand-beside telecommunications network" employing the same technology as the incumbent LEC. For the entrant, the relevant entry cost is the stand-alone cost of the network of *its* intended scale and geographic coverage, not the stand-alone cost of replicating the incumbent's network. Moreover, the barrier to entry argument is incorrect because entrants have already incurred substantial sunk costs to build overlapping networks employing multiple wireline and wireless technologies. Finally, as we have shown elsewhere, the combination of the FCC's unbundling rules and TELRIC-based pricing administered by the states will not replicate competitive markets.³⁰⁰

²⁹⁴ *Id.*

²⁹⁵ *Id.*

²⁹⁶ *Id.*

²⁹⁷ *Id.*

²⁹⁸ *See id.*

²⁹⁹ *Id.*

³⁰⁰ *See The Tragedy of the Telecommons*, *supra* note 6, at 1149-52.

The Eighth Circuit also concluded that the unbundling rules would not “hinder the development of facilities-based competition or impede innovation in telecommunications.”³⁰¹ The court stated:

Even in light of the unbundling rules, we believe that competing carriers will continue to have incentives to build their own networks. Once a new entrant has established itself and acquired a sufficient customer base to justify investments in its own facilities, a carrier that develops its own network gains independence from incumbent LECs and has more flexibility to modify its network elements to offer innovative services.³⁰²

It is unclear, however, what value “independence from incumbent LECs” has for the entrant if the pricing rules for unbundled elements produce prices below the incumbent LECs’ respective TELRICs for its network elements and groups of elements. Typically, the recipient of a subsidy does not yearn for independence of the sort that terminates that subsidy. The Eighth Circuit reiterated its belief that “the increased incentive to innovate resulting from the need of a carrier to differentiate its services and products from its competitors’ in a competitive market will override any theoretical decreased incentive to innovate resulting from the duty of a carrier to allow its competitors access to its network elements.”³⁰³ Over time, the court’s hypothesis will be empirically testable. The analysis in this Article, however, suggests why one might expect that hypothesis ultimately to be rejected.

The Eighth Circuit’s decision highlights how the pricing of network access is inextricably linked to the scope of mandatory unbundling. One cannot say whether or not a particular unbundling obligation is just and reasonable unless one knows how the regulator will permit the incumbent firm to price the mandatory network access associated with that obligation. Because of the jurisdictional basis for its decision on the *First Report and Order’s* pricing rules, the Eighth Circuit avoided the takings issues posed by the confluence of the FCC’s unbundling rules and the state PUCs’ pricing rules. As a matter of *statutory* interpretation at least, the court treated the local telecommunications network as the commons that the Telecommunications Act had made it—yet without deciding whether, in light of the practical interaction of state and federal regulation, that transformation was an unconstitutional confiscation of private property. Thus, the Eighth Circuit left for a later day—and a different court—the demanding task of resolving the takings and contract is-

³⁰¹ *Iowa Utils. Bd.*, 120 F.3d at 816.

³⁰² *Id.* at 817.

³⁰³ *Id.*

sues that result from the competitive transformation of network industries.

CONCLUSION

The comments of Professors Baumol and Merrill, Judge Williams, and Professor Williamson concerning our original article on deregulatory takings and the regulatory contract have measurably advanced the intellectual discourse over the competitive transformation of network industries in the United States. There continues to be nearly universal agreement among scholars and policymakers that it is desirable to make the transition from regulated monopoly to competition in telecommunications and electric power. The question is how to implement the transformation of those key network industries.

If the publication of our previous article in this *Review* has affected public debate, we believe that its contribution lies in what now appears to be an emerging consensus that the costs of that transition are appreciable and that both economic analysis and existing principles of contract law and constitutional law reveal why it is necessary to compensate incumbent public utilities for the value of their lost expectations. That consensus provides guidance to public policymakers regarding the competitive transformation. Deregulation should not be an opportunity for the creation of increased regulations to supplant those that regulators are lifting. Thus flows the lesson of *Northern Pacific Railway* that regulators should not redefine the intended use of private property dedicated to a public purpose without compensating for any resulting impairment of the regulated firm's ability to recover its economic costs. Deregulation creates opportunities for consumers, competitive entrants, and regulated firms. Those valuing such opportunities for the purposes of renegotiating the regulatory bargain, however, should recognize that they must award just compensation on the basis of expected net revenues from *regulated assets*. The same yardstick applies to both regulatory givings and takings. The fact that the expected benefits to society from the transformation exceed the expected costs indicates not only that government should undertake that transformation for the benefit of its citizens, but also that the means exist for the beneficiaries of competition to compensate those property owners who bear the costs of regulation.