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E. Holbert

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

APPLICATION OF PECO ENERGY COMPANY
FOR APPROVAL OF ITS RESTRUCTURING PLAN
UNDER SECTION 2806 OF THE PUBLIC UTILITY CODE

DOCKETED
NOV 04 1997

REBUTTAL TESTIMONY
DOCUMENT
FOLDER

OF

J. GREGORY SIDAK

Regarding an Economic Analysis of the Appropriate
Standard of Conduct That Should
Govern the Relationship Between
PECO's Regulated Wire Business
and Its Competitive, Unregulated Generation
and Other Businesses

and

An Economic and Constitutional Analysis of
the Justness and Reasonableness of PECO's
Full Recovery of Its Stranded Costs

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REBUTTAL TESTIMONY OF J. GREGORY SIDAK

**REGARDING AN ECONOMIC ANALYSIS OF THE APPROPRIATE
STANDARD OF CONDUCT THAT SHOULD
GOVERN THE RELATIONSHIP BETWEEN
PECO'S REGULATED WIRE BUSINESS
AND ITS COMPETITIVE, UNREGULATED GENERATION
AND OTHER BUSINESSES**

AND

**AN ECONOMIC AND CONSTITUTIONAL ANALYSIS OF
THE JUSTNESS AND REASONABLENESS OF PECO'S
FULL RECOVERY OF ITS STRANDED COSTS**

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PURPOSE AND SCOPE OF THE REBUTTAL TESTIMONY

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Q. What is the purpose and scope of your rebuttal testimony?

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A. My rebuttal testimony has two purposes. First, my rebuttal testimony examines the standards of conduct that should govern the relationship between PECO's future regulated wire business and its competitive, unregulated generation and other businesses.

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In particular, I respond to the direct testimonies of Professor John W. Mayo and Mr.

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Michael D. Dirmeier filed on behalf of Enron Power Marketing, Inc. I also respond to

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economic issues raised by Ms. Barbara R. Alexander on behalf of the Office of

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Consumer Advocate, Mr. Richard H. Silkman on behalf of Senator Vincent J. Fumo and

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others, Mr. Bruce Edward Biewald on behalf of the Environmentalists, and Mr. Donald

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E. Johnstone on behalf of the Mid-Atlantic Power Supply Association.

1 Department of Justice, to the Canadian Competition Bureau, and to regulated companies
2 in the United States and other countries engaged in antitrust litigation.

3
4 **CONCLUSION**

5 **Q. What are the major conclusions of your rebuttal testimony?**

6 **A.** With respect to the testimony of Professor Mayo and Mr. Dirmeier, I conclude that the
7 burdensome regulation that they urge the Commission to impose asymmetrically on
8 PECO would add substantial costs to consumers in Pennsylvania without any offsetting
9 benefits. Key assumptions upon which Professor Mayo's conclusions rest are neither
10 proven as a factual matter in his testimony nor likely to correspond to the real-world
11 circumstances facing PECO in Pennsylvania. In short, there is gap between theory and
12 fact in Professor Mayo's conclusions. Professor Mayo's proposed code of conduct
13 would force PECO to compete with one hand tied behind its back, turning
14 "deregulation" into "managed competition." Mr. Dirmeier's recommendations would
15 facilitate that distortion of deregulation by imposing a code of conduct on PECO
16 calculated to increase its costs and reduce its ability to compete.

17 With respect to the testimony of Mr. Bradford, I conclude that, with the passage of
18 the Competition Act, the legislature in effect closed the debate on whether the regulatory
19 contract exists in Pennsylvania. Whether or not one believes that such a contract exists,
20 the simple fact is that the legislature has provided this Commission with a detailed
21 regulatory process for both opening the retail electricity market to competition and
22 permitting the recovery of stranded costs. The Commission need not reinvent the wheel.

1 By providing for full recovery of stranded costs pursuant to the 1996 legislation, the
2 Commission does not need to venture into legal and economic questions about the
3 regulatory contract—or, for that matter, constitutional theory concerning the Takings
4 Clause. In short, Mr. Bradford's testimony is inessential to the issues that the
5 Commission must decide.

6 Moreover, on substantive grounds, Mr. Bradford has failed to prove his thesis that
7 the regulatory contract does not exist in Pennsylvania. To the contrary, Mr. Bradford
8 concedes the essential aspects of such a contract. Given the volume of testimony being
9 received in this proceeding on matters that are truly essential, I will respond
10 substantively to Mr. Bradford's testimony as briefly as possible and direct the
11 Commission to more detailed analysis of the contract and takings issues that appears in
12 selected chapters from my book with Professor Daniel F. Spulber, *Deregulatory Takings*
13 *and the Regulatory Contract: The Competitive Transformation of Network Industries in*
14 *the United States* (Cambridge University Press 1997), which I attach as Exhibit JGS-1.
15 In addition, I attach as Exhibit JGS-2 the Affidavit of Katherine K. Combs, which
16 compiles the franchise documents for PECO and its predecessor companies. Those
17 franchises, along with the Pennsylvania judicial and regulatory decisions summarized in
18 Exhibit JGS-3, are in my opinion compelling evidence of the existence of the regulatory
19 contract between PECO and the Commonwealth.

II. CODE OF CONDUCT ISSUES

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A. Conclusion

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Q. What are your major conclusions concerning the direct testimonies of Professor Mayo, Mr. Dirmeier, Ms. Alexander, Mr. Silkman, Mr. Biewald, and Mr. Johnstone?

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A. The aforementioned witnesses argue that a vertically integrated utility will have unfair market power advantages in unregulated retail markets because of its continued monopoly ownership of distribution lines. Thus, those witnesses advocate that it is necessary for this Commission to impose extensive controls on vertically integrated utilities to bring about a competitive retail marketplace. In proposing such broad-based codes of conduct, however, those witnesses fail to distinguish the advantages of vertically integrated utilities that legitimately need to be addressed by transition rules and codes of conduct from the advantages that are procompetitive or of transitory duration and ought not be a part of such codes. Codes of conduct that fail to make that distinction and exceed what is legitimately necessary to ensure an open competitive marketplace for electricity would place unjustified burdens on incumbent utilities and thus reduce their ability to compete. That outcome would deny consumers choices that a competitive marketplace would otherwise give them.

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Q. Is there a principled way to distinguish appropriate rules from inappropriate rules?

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A. Yes. The basis for any transition rule should be whether or not an advantage to a vertically integrated utility arises solely from continued monopoly ownership of transmission or distribution lines. Rules that exceed that legitimate scope and impose

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1 competitive handicapping on incumbent integrated utilities because of their supposed
2 market power advantages, unrelated to ownership of transmission or distribution lines,
3 are not grounded in sound economic principles and are likely to reduce consumer
4 welfare because such rules would limit the positive effects of incumbents' competitive
5 advantages. In addition, such rules fail to address the critical issue of whether any
6 particular advantage constitutes an economically cognizable impediment to entrants. To
7 determine whether entrants are so impeded, one must consider the number, resources,
8 and capabilities of the probable entrants into the deregulated retail electric markets, such
9 as natural gas and oil companies, utilities from other geographic areas, and consumer
10 product and service companies.

11 **Q. How does your approach differ from Professor Mayo's, Mr. Dirmeier's, and the**
12 **other aforementioned witnesses?**

13 A. Ironically, in their attempt to "promote" and "protect" competition, those witnesses
14 advocate increased regulatory intervention that would only create overwhelming
15 administrative difficulties, as it would require the Commission to attempt the impossible
16 task of "managing" markets. (*The manifold problems inherent in managed competition*
17 *are discussed in detail in chapter 15 of *Deregulatory Takings the Regulatory Contract*,*
18 *Exhibit JGS-1, at 495-534.*) Imposing more regulation in the name of deregulation is
19 counterproductive. It is an outcome-based approach to managing deregulation that aims
20 at artificially promoting some minimum amount of entry and some mandated erosion of
21 incumbents' market shares. Inevitably, with that approach the number of entrants and
22 the degree of erosion of incumbents' market shares will become measures of the

1 “success” of deregulation, regardless of whether consumers are well-served or
2 competition is vigorous. Such an approach would thwart the goal of competition because
3 it would impede rather than promote the competitive process. The approach would set
4 aside the procompetitive effects of full participation of vertically integrated utilities in
5 retail markets, and it would ignore the competitive significance of the likely entrants into
6 deregulated markets. The resources and capabilities of those likely entrants can be
7 expected to confer on them competitive advantages that will offset any initial advantages
8 possessed by incumbent utilities.

9 In contrast, my approach is an opportunity-based approach. The guiding principles
10 that I discuss below are grounded in the understanding that competition is a process, not
11 an outcome. Specifically, the principles recognize that competition is a process by which
12 firms continually strive to maximize their own returns by offering consumers products
13 and services at prices, quality levels, and reliability standards that are more attractive
14 than those offered by rival firms. Firms that continually invest effort, time, and money
15 in satisfying consumer preferences are rewarded by survival and profits. If firms do not
16 successfully invest and satisfy consumer needs, they fail. Shaping regulatory rules to
17 embody that basic insight will reward rather than penalize procompetitive conduct—that
18 is, any production or marketing activity that enhances efficiency and adds value to
19 products and services in the minds of consumers. Seen in that light, competitive
20 advantages are the legitimate market rewards for serving consumers well and are not
21 bases for handicapping the advantaged competitor as long as markets are open and
22 accessible to potential entrants.

1 **Q. What recourse will there be if there are anticompetitive abuses of market power**
2 **advantages by vertically integrated utilities?**

3 A. I believe that the code of conduct proposed by PECO will suffice to eliminate such
4 concerns. If, however, such competitive concerns do arise, then federal antitrust laws
5 and Pennsylvania fair trade and business practices laws are the appropriate policing
6 mechanism. They are superior to regulations because the antitrust laws provide the
7 requisite flexibility to address specific problems that regulations did not anticipate and
8 because the antitrust laws avoid the adverse consequences of overly burdensome
9 regulations. Given the number of sophisticated firms that are ready to compete in
10 Pennsylvania's market for electric power, there will be no shortage of watchdogs.

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12 **B. Professor Mayo's Analysis**

13 **1. The Leveraging Argument**

14 **Q. Professor Mayo states "the retention of market power by PECO at the generation**
15 **stage can act to undermine the realization of the competitive benefits envisioned**
16 **under the Competition Act for retail consumers of electricity." (Mayo Direct**
17 **Testimony at 7, lines 17-19.) Please comment.**

18 A. Professor Mayo's discussion of PECO's ability to "raise and maintain prices of
19 generated power above competitive levels" (Mayo Direct Testimony at 7, line 15) lacks
20 both an economic basis and factual support. He undertakes no analysis to define the
21 relevant product and geographic market (the traditional first step in a market power
22 study), collects no data to test his position, and offers no empirical support for his

1 assertion. He states simply:

2 PECO's market share of the generated power consumed by retail customers
3 in its service area is likely to be quite high. Given this large market share,
4 the issue of whether PECO retains significant market power at the
5 generation stage will turn upon the extent of barriers to entry and expansion
6 of generation services to customers residing in the PECO service territory.
7 (*Id.* at 7, lines 2-7.)

8
9 The unsubstantiated assertion that the incumbent firm enjoys unconstrained market power
10 contradicts established thinking in antitrust law. Naive reliance on market shares in
11 antitrust cases can produce diagnoses of monopoly power where none exists. Market
12 power refers to the ability of a firm to raise price above the competitive level without
13 losing so many sales as to make the price increase unprofitable.¹ In terms of maximizing
14 consumer welfare, public policy should examine market performance, not market
15 structure. By market performance, I mean whether or not price is set at economic cost.
16 Market shares are merely an indirect indicator of whether price is likely to exceed
17 marginal cost. The danger with market-share analysis, however, is that regulators will
18 continue to rely upon it when it produces misleading inferences of market power and
19 market performance, or when more direct evidence of the margin between price and cost
20 is readily available.

21 **Q. Does any other witness make similarly unsupported assertions of PECO's alleged**
22 **market power?**

23 **A. Yes. Mr. Johnstone's direct testimony suffers from this same error in reasoning.**
24 **(Johnstone Direct Testimony at 4, lines 9-10; 5, lines 13-19.)**

25 1. See, e.g., William E. Landes & Richard A. Posner, *Market Power in Antitrust Cases*, 94 HARV. L. REV.
26 937 (1981).

1 Q. Does any regulatory decision contradict the assertions by Professor Mayo and Mr.
2 Johnstone that PECO has unconstrained market power?

3 A. Yes. As Mr. David Pratzon explains in his testimony, the Federal Energy Regulatory
4 Commission in 1996 granted PECO approval to sell wholesale power at market-based
5 rates. That determination required FERC to find, among other things, that PECO did
6 not have, or that it had mitigated adequately, any market power in generation and
7 transmission.²

8 Q. Is FERC's assessment consistent with the prospects for competitive entry in
9 Pennsylvania under the Competition Act?

10 A. Yes. Contrary to the impression given by witnesses who advocate competitive
11 handicapping, such as Professor Mayo and Mr. Johnstone, projected entry into the
12 electricity market in Pennsylvania strongly indicates that barriers to entry are far from
13 prohibitive. Potential entrants include established utilities (for example, Pennsylvania
14 Power & Light Company, Delmarva Power and Light Company, and General Public
15 Utilities) with management, marketing, and technical knowledge of the electric industry
16 comparable to that of PECO. Other potential entrants are large, diversified energy
17 companies such as CNG, Enron, and the Southern Company. Table One lists more than
18 twenty companies that have filed applications to provide electric service in competition
19 with PECO, as of June 24, 1997. Those potential entrants have financial resources,
20 technical expertise, marketing, and advertising budgets that rival or exceed PECO's.

21 2. PECO Energy Co., 74 F.E.R.C. ¶ 61,336 at 62,047 (1996).

Table One
COMPANIES FILING APPLICATIONS TO PROVIDE ELECTRIC SERVICE IN PENNSYLVANIA

NAME OF COMPANY	SERVICE AREA REQUESTED	TYPE OF SERVICES REQUESTED G&S = Generator & Supplier of Electric Power BM&A = Broker/Marketer and Aggregator
Eastern Power Distribution	All of Pennsylvania	G&S; BM&A
Competitive Utility Services Corp.	All of Pennsylvania	G&S; BM&A
CNG Energy Services	All of Pennsylvania	G&S; BM&A
CNG Retail Services Corporation	All of Pennsylvania	G&S; BM&A
DuPont Power Marketing, Inc.	All of Pennsylvania	BM&A
Pennsylvania Power & Light Co.	All of Pennsylvania	G&S; BM&A
QST Energy, Inc.	All of Pennsylvania	Broker/Marketer
NorAM Energy Management, Inc.	All of Pennsylvania	BM&A
GPU Advanced Resources, Inc.	All of Pennsylvania	Aggregator only
Xenergy	All of Pennsylvania	BM&A
Bruin Energy, Inc.	PECO service territory; specifically Chester County Region	BM&A
Delmarva Power & Light Company	All of Pennsylvania	G&S; BM&A
Enron Power Marketing, Inc.	All of Pennsylvania	BM&A
Equitable Power Services Company	All of Pennsylvania	G&S; BM&A
Allegheny Electric Cooperative, Inc.	All of Pennsylvania	G&S; Electric Cooperative Corporation & Supplier of Electric Power; BM&A
Pennsylvania Power Company d/b/a PennPower Energy	All of Pennsylvania	G&S; BM&A
Virginia Electric & Power Company d/b/a Evantage	All of Pennsylvania	G&S; BM&A
Southern Energy Retail Trading & Marketing, Inc.	All of Pennsylvania	BM&A
e prime, inc	All of Pennsylvania	BM&A
Pan Energy	All of Pennsylvania	G&S; BM&A
Strategic Energy Partners	All of Pennsylvania	Aggregator only

Source: PECO

1 Q. Professor Mayo states that special concerns are raised when a firm participates in
2 multiple markets, some of which are competitive and some of which are not. Please
3 comment.

4 A. Professor Mayo is concerned that PECO could leverage its monopoly position in the
5 distribution of electricity to obtain an unfair advantage over competitors in other related
6 lines-of-business—for example, the generation market or the market for retail services.
7 The leverage argument rests on the antitrust law concept of vertical restraints. A vertical
8 restraint restricts a company's buyer or seller relationships with other companies.
9 Antitrust plaintiffs may challenge a vertical restraint as an "exclusionary practice,"
10 which Judge Richard A. Posner has defined as occurring when a firm "trades a part of
11 its monopoly profits, at least temporarily, for a large market share, by making it
12 unprofitable for other sellers to compete with it."³ The leverage argument is generally
13 flawed in any market. Because a monopolist can always extract monopoly rents in the
14 market that it controls, it cannot increase its rents by expanding into a second market.

15 In apparent recognition of this finding, Professor Mayo lists the "presence of price
16 or profit regulation" as one of his five conditions that facilitate monopoly leveraging.
17 (Mayo Direct Testimony at 9, line 15.) Professor Mayo's analysis, however, ignores that
18 regulatory agencies in numerous network industries and numerous jurisdictions have
19 addressed this issue by adopting rules governing the incumbent firm's pricing of inputs
20 sold to competitors.⁴ If this Commission were to adopt that approach with respect to

21 3. RICHARD A. POSNER, *ANTITRUST LAW: AN ECONOMIC PERSPECTIVE* 28 (University of Chicago Press 1976).

22 4. For discussion of such pricing and its adoption by regulators, see WILLIAM J. BAUMOL & J. GREGORY SIDAK,
23 *TRANSMISSION PRICING AND STRANDED COSTS IN THE ELECTRIC POWER INDUSTRY* 115-38 (AEI Press 1995);
24 WILLIAM J. BAUMOL & J. GREGORY SIDAK, *TOWARD COMPETITION IN LOCAL TELEPHONY* 93-116 (MIT Press

1 retail wheeling, it would simply require a distribution company providing generation and
2 retail services through a separate affiliate to charge the affiliate (or impute to itself) an
3 amount for the service no less than the amount charged to any unaffiliated company for
4 such service. In the presence of parity pricing, Professor Mayo's argument that PECO
5 could leverage its monopoly position to gain an unfair advantage would be based on an
6 economic position that is not generally accepted as a matter of regulatory practice and
7 is inconsistent with current industry conditions that establish parity with respect to the
8 provision and pricing of bottleneck services. Of course, even in the absence of a
9 Commission mandate, parity pricing is within the scope of PECO's proposed code of
10 conduct, which provides in paragraph 2 that PECO "shall supply services and apply the
11 rules and other provisions of its Tariffs to non-affiliates in the same manner that it
12 applies them to a PECO Supplier."

13 **Q. If any market power advantages of incumbent integrated utilities derive solely from**
14 **the continued ownership of distribution lines and those advantages were transferred**
15 **from regulated to unregulated operations, would an unfair barrier to new entry be**
16 **erected as Professor Mayo suggests?**

17 **A. In some cases, yes. For example, using ratepayer funds to subsidize an unregulated**
18 **affiliate or providing an affiliate with information that is unavailable to anyone other**

19 & AEI Press 1994); William J. Baumol & J. Gregory Sidak, *The Pricing of Inputs Sold to Competitors*, 11 YALE
20 J. ON REG. 171 (1994); William J. Baumol, *Some Subtle Issues in Railroad Regulation*, 10 INT'L J. TRANSP. ECON.
21 341 (1983); see also PAUL W. MACAVOY, *THE FAILURE OF ANTITRUST AND REGULATION TO ESTABLISH COM-*
22 *PETITION IN LONG-DISTANCE TELEPHONE SERVICES* 209 (MIT Press & AEI Press 1996); William J. Baumol, Janusz
23 A. Ordover & Robert D. Willig, *Parity Pricing and Its Critics: Necessary Conditions for Efficiency in Provision of*
24 *Bottleneck Services to Competitors*, 14 YALE J. ON REG. 145 (1997); Jerry A. Hausman & Timothy J. Tardiff,
25 *Efficient Local Exchange Competition*, 40 ANTITRUST BULL. 529, 539, 544, 552-53 (1995); Alfred E. Kahn &
26 William Taylor, *The Pricing of Inputs Sold to Competitors: A Comment*, 11 YALE J. ON REG. 225 (1994).

Page

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Missing

1 *Deregulatory Takings and the Regulatory Contract*, Exhibit JGS-1, at 517–19. Basing
2 regulatory or antitrust policy on static analysis of today’s market conditions can be
3 seriously misleading. It also contradicts the basic premise that competition is a process,
4 not an outcome.

6 **2. The “Competition-Enabling Approach”**

7 **Q. Professor Mayo advocates a “Competition-Enabling Approach” as the solution to**
8 **the problems posed by monopoly leveraging. Please comment.**

9 **A.** Professor Mayo recommends that regulatory agencies pursue opportunities to “*promote*
10 *the growth of competition in monopoly markets and to protect the incipient competitive*
11 *process as it emerges in formerly monopolized markets.*” (Mayo Direct Testimony at 19,
12 *lines 10-11, emphasis in original.*) As deregulation proceeds, he urges regulators to take
13 *an activist role. That view is misguided. Regulation should recede as competition*
14 *progresses.* There is no need for regulators to manage competition because the returns
15 *that firms expect to earn from serving customers provide sufficient incentives for those*
16 *firms to compete vigorously in providing electricity services. Indeed, the attempt to*
17 *manage competition not only entails administrative costs, but also prevents the market*
18 *from achieving the benefits of competition that regulators wish to attain for consumers.*
19 *Moreover, antitrust laws serve to protect competition from monopolization and other*
20 *anticompetitive practices. Regulatory attempts to supplant that role of antitrust law*
21 *would, if anything, preempt its proper functioning.*

3. Three Principles for a Regulatory Code of Conduct

1 Q. What principles or guidelines do you recommend the Commission follow to achieve
2 the full benefits of competition?
3

4 A. I recommend that the Commission observe three fundamental principles: equal
5 opportunity, impartiality, and economic incentive. See *Deregulatory Takings and the*
6 *Regulatory Contract*, Exhibit JGS-1, at 496-97 *et seq.*

7 The *equal opportunity principle* requires regulations to fall evenly on entrants
8 and incumbents. That principle has two closely related implications. First,
9 regulatory requirements imposed on the incumbent firm that the regulator
10 wishes to continue when the market is opened to competition should be imposed
11 on all entrants.⁷ Second and conversely, the regulator should remove
12 regulations that apply exclusively or disproportionately to the incumbent firm.
13 Just as regulations that favor incumbents over entrants will create regulatory
14 *barriers to entry* that reduce market competition and potential entry, so also do
15 regulations that favor entrants over the incumbent limit the incumbent's ability
16 to compete and thus create *incumbent burdens*.⁸ True deregulation requires

17 7. I understand that the Competition Act imposes supplier-of-last-resort obligations only on the incumbent utility.
18 Plainly, that is a continuation of an asymmetric regulatory burden. Consequently, it will be necessary for the
19 Commission to ensure that the incumbent utility is permitted to set tariffs for standby services at compensatory
20 levels—that is, levels that reflect the full economic cost to the incumbent of maintaining capacity to accommodate
21 an off-system customer who, in effect, holds an option to demand resumption of service at any moment.

22 8. An incumbent burden is said to exist if incumbents face costs due to regulation that are not imposed on en-
23 trants. An incumbent burden is the opposite of an entry barrier. It is, in effect, a subsidy to entry and bypass of the
24 existing network, even if such bypass would be uneconomic in the absence of the regulations. Stated differently,
25 incumbent burdens are analogous to the phenomenon of "raising rivals' costs," except that in an industry subject
26 to public utility regulation the "rival" whose cost is being raised is the incumbent public utility rather than the
27 entrant. Thus, the raising of a rival's cost is a method not of facilitating inefficient exclusion from a market, but of
28 facilitating inefficient entry into it. Paul W. MacAvoy, Daniel F. Spulber & Bruce E. Stangle, *Is Competitive Entry*
29 *Free?: Bypass and Partial Deregulation in Natural Gas Markets*, 6 YALE J. ON REG. 209, 210 (1989).

1 removing both barriers to entry *and* incumbent burdens. In particular, the
2 incumbent utility should have the same flexibility as entrants in setting prices
3 and offering services. The key to ensuring equal opportunity is to give equal
4 treatment to all market participants rather than to engage in competitive
5 handicapping. Justice Stephen G. Breyer, writing in a law review article before
6 his elevation to the U.S. Supreme Court, recognized essentially this same point
7 when discussing the deregulatory experiences in airlines and
8 telecommunications. “Either the regulatory system or the antitrust rules,” he
9 observed, “may be used to protect new competitors rather than to serve the ends
10 of competition.”⁹ He explicitly rejected what he termed “competitive
11 handicapping,” stating that such policies would be “subject to the traditional
12 attacks on ‘infant industry’ protectionism.”¹⁰ He concluded that “long-term
13 handicapping is wasteful even if deregulation itself was wrongly conceived”
14 because handicapping would “deprive consumers of the benefits of lower costs”
15 or simply interfere with the competitive process.¹¹

16 The *impartiality principle* means that consumers, not regulators, should
17 determine the number and size distribution of market participants. Regulators
18 should not attempt to influence the eventual outcome of competition or to
19 micromanage the evolving electric power markets. Regulators should rapidly
20 phase out their industry oversight and regulatory activities to avoid the

21 9. Stephen G. Breyer, *Antitrust, Deregulation, and the Newly Liberated Marketplace*, 75 CALIF. L. REV. 1005,
22 1022 (1987).

23 10. *Id.* at 1025.

24 11. *Id.* at 1025, 1026.

1 possibility of biasing competitive outcomes.

2 Finally, the *economic incentive principle* requires that the regulatory
3 commission give the incumbent electric company the incentive to discharge its
4 regulatory obligations. A supplier will not invest in a transaction unless the
5 supplier expects the returns from the transaction to recover all economic costs,
6 including a competitive return to invested capital. As the electric industry
7 becomes deregulated, the incumbent firm cannot be asked to provide services
8 in the competitive market at regulated prices that preclude any reasonable
9 opportunity for full cost recovery. The resulting destruction of economic incen-
10 tives would reduce the utility's ability—and hence its willingness—to continue
11 providing service.

12 Consistent application of those three principles will allow the Commission to establish
13 basic rules for an orderly transition to competition that rely on competitive innovation
14 and cost cutting as the sources of consumer benefits. PECO's proposed code of conduct
15 and the existing antitrust laws are sufficient to address the concerns raised by Professor
16 Mayo. Asymmetric regulation that burdens a vital competitor is not the correct policy
17 prescription.

18 19 **4. Professor Mayo's Recommended Policies to "Protect" Competition**

20 **Q. How would you characterize Professor Mayo's policies to protect competition?**

21 **A.** First, I concur with Professor Mayo that the Commission need not undertake the so-
22 called Rules Approach and/or Structural Separations to achieve the full benefits of

1 competition. As explained by Professor Mayo, the Rules Approach “gives rise to the
2 need to design, implement and enforce a set of regulations to protect consumers and
3 competitors.” (Mayo Direct Testimony at 16, lines 13-14.) Structural separation is not
4 only unnecessary for the reasons given above, but would impose on society losses of
5 vertical economies—a cost that would ultimately be borne by consumers in the form of
6 higher prices. Nonetheless, PECO has agreed to certain segregation of personnel,
7 facilities, and data.¹² Further segregation is unnecessary and would injure consumer
8 welfare by raising total industry costs. I note, however, that despite Professor Mayo’s
9 protestations, other witnesses in this proceeding, such as Mr. Dirmeier testifying on
10 behalf of Enron, appear to favor an approach that would involve not only structural
11 separation, but also implementation of a Rules Approach.

12 Professor Mayo’s policies for protecting competition are in conflict with the equal
13 opportunity, impartiality, and economic incentive principles that I described above.
14 Taken together, Professor Mayo’s policy prescriptions presume that regulators can
15 replicate competitive outcomes in regulated markets, a belief that contravenes the
16 requisite dynamism of a competitive market. Competitive markets require continual
17 adjustment of prices and product offerings to changes in customer tastes, incomes, and
18 technological innovation. The informational requirements of such adjustments are not

19 12. Paragraph 5 of PECO’s proposed code of conduct provides:

20
21 Employees of PECO who have responsibility for operating the distribution system, such as receiving
22 requests for power, purchasing power, scheduling delivery, or billing and metering, shall not be shared
23 with a PECO Supplier, and their offices shall be physically separated from the office(s) used by those
24 working for the PECO Supplier. Any shared facilities shall be fully and transparently allocated between
25 the LDU function and the PECO Supplier function. PECO accounts and records shall be maintained such
26 that the costs a PECO Supplier incurs may be clearly identified.

1 compatible with the costly, complex, and protracted administrative procedures that
2 regulatory rulemaking requires. Regulation is at best an imperfect proxy for competition,
3 not a *replica* of it. Rather than attempt to replicate the market, regulators should
4 recognize that achieving market outcomes requires removing regulatory restrictions as
5 electric power markets become increasingly competitive. Expanding the scope of
6 regulation will only make it less, not more, plausible that regulators will be able to
7 achieve market outcomes. All that is required of regulators is to ensure that entrants
8 enjoy the same open access to transmission and distribution facilities as does the
9 incumbent and that entrants are free to win consumers by offering superior prices and
10 services. Promoting competition requires no further guarantees to entrants.

11 The state legislature of Pennsylvania has opened electric generation markets to
12 competition. If the Commission now establishes unbiased rules that allow entrants and
13 the incumbent equal opportunities to compete, market incentives can be relied upon to
14 produce competitive outcomes. Firms compete when and where they discern opportuni-
15 ties for profit. Competition is the spontaneous and natural outcome of private companies
16 seeking to obtain a competitive return on their shareholders' investment.

17 **Q. Do you have any comments on the seven specific actions Professor Mayo urges the**
18 **Commission to undertake?**

19 **A. Yes. I will address those specific proposals in the order presented by Professor Mayo:**

20 1. "[M]andate the separation of monopoly from potentially competitive
21 functions of PECO to the maximum extent feasible, consistent with the efficient and
22 reliable provision of power and the dictates on the Competition Act." (Mayo Direct

1 Testimony at 32, lines 2-5.) Professor Mayo seems to imply that some degree of
2 structural separation is appropriate, although he offers the Commission no advice
3 with respect to how much separation should actually take place. From his earlier
4 discussion of the costs of structural separation, one could reasonably conclude that
5 Professor Mayo has in mind structural separation up to the point where forgone
6 economies of vertical integration become significant. But how would this threshold
7 level be determined? In what forum should it be investigated? Would such an
8 analysis be continuously updated? The administrative cost of such a finding would
9 indeed be staggering. Proponents of structural separation bear a heavy burden that
10 the benefits of such an action outweigh the costs to society. Paragraph 5 of PECO's
11 proposed code of conduct, quoted above, is already sufficient.

12 2. "[R]equire complete and unconditional provision of necessary access by all
13 competitors to remaining monopoly assets of the electric supply system in
14 Pennsylvania." (*Id.*, lines 6-8.) Professor Mayo's recommendation is incomplete.
15 Professor Mayo does not state under what conditions access should be provided. To
16 preserve economic incentives, such access should be provided at rates that are
17 compensatory to the incumbent. As the electric industry becomes deregulated, the
18 incumbent cannot be asked to provide access to monopoly assets at prices that would
19 preclude any reasonable opportunity for full costs recovery.

20 3. "[E]xplicitly prohibit bundling of monopoly services or functions with
21 potentially competitive services or functions." (*Id.*, lines 9-10.) If taken literally,
22 that recommendation would be overbroad and would be in conflict with Professor

1 Mayo's testimony only a few pages earlier. (Mayo Direct Testimony at 26, lines 2-
2 4.) Unbundling requirements should not prevent the incumbent firm from offering
3 bundled services; rather, unbundling should merely enable entrants to access the
4 components of the incumbent's bundled services. Eliminating the incumbent's
5 bundled service would simply limit consumer choice, block incumbent entry into the
6 market for new, innovative bundled services, and reduce the vigor of competition.

7 4. "[E]stablish procedures to prevent anticompetitive price discrimination and
8 cross-subsidization." (*Id.* at 32, lines 11-12.) Professor Mayo recommends that the
9 Commission develop "procedures" that would attempt to replicate existing federal
10 antitrust law and Pennsylvania fair trade and business practices laws. Moreover, he
11 fails to make operational his recommendation to the Commission. As Professor
12 Mayo is well aware, not all forms of differential price are detrimental to consumer
13 welfare and thus unlawful. From his statement, therefore, we are left to infer that
14 he would have the Commission establish rules to ensure that anticompetitive conduct
15 does not occur. But that is precisely the role of established antitrust policy. Below-
16 cost, predatory pricing or exclusionary conduct that has no legitimate business
17 justification is unlawful, and the antitrust authorities stand ready to enforce
18 prohibitions against such acts. Professor Mayo's regulatory prophylactic is
19 superfluous and can only raise the administrative cost of the regulatory process to
20 the detriment of consumers.

21 5. "[E]stablish economically sound guideposts for the measurement of costs
22 so that 'cost shifting' does not become a vehicle through which cross-subsidization

1 may be carried out.” (*Id.*, lines 13-15.) Professor Mayo fails to recognize that
2 regulators in many states, including Pennsylvania, already have in place procedures
3 to measure marginal and incremental costs.¹³ The development of price floors
4 based on established costing principles ensure that prices for service provided to
5 affiliates are free of cross-subsidies. Moreover, Professor Mayo overlooks the fact
6 that the Competition Act bars cost shifting by imposing rate caps on certain of
7 PECO’s regulated charges.¹⁴ Given those rate caps, there is no incentive for PECO
8 to shift costs to products subject to the rate caps, because such shifted costs cannot
9 be recovered during the rate-cap period.¹⁵

10 6. “[E]stablish procedures that aggressively seek to eliminate opportunities for
11 nonprice discrimination by the incumbent provider.” (*Id.*, lines 16-17.) This
12 recommendation is consistent with a central theme of Professor Mayo’s testimony:
13 regulatory intervention is required to eliminate perceived evils. As I have discussed
14 previously, such intervention is redundant and socially costly in light of existing
15 federal antitrust laws and Pennsylvania fair trade and business practices laws.

16 13. *E.g.*, *Haley v. Philadelphia Elec. Co.*, Initial Decision, Dkt. No. C-913540 (Pa. Pub. Utils. Comm’n
17 A.L.J., Jan. 3, 1994), *aff’d*, Opinion and Order (Pa. Pub. Utils. Comm’n June 23, 1994), *aff’d mem.*, No. 2108
18 (Pa. Commonwealth Ct., Nov. 21, 1995) (unpublished).

19 14. 66 PA. C.S. § 2804(4).

20 15. An extensive body of research by distinguished regulatory economists explains how price caps eliminate the
21 concern over cross-subsidization. *See, e.g.*, PAUL W. MACAVOY, *THE FAILURE OF ANTITRUST AND REGULATION*
22 *TO ESTABLISH COMPETITION IN LONG-DISTANCE TELEPHONE SERVICES* 188 (MIT Press & AEI Press 1996); Susan
23 Gates, Paul Milgrom & John Roberts, *Deterring Predation in Telecommunications: Are Line-of-Business Restraints*
24 *Needed?*, 16 *MANAGERIAL & DECISION ECON.* 427, 430 (1995); Paul S. Brandon & Richard L. Schmalensee, *The*
25 *Benefits of Releasing the Bell Companies from the Interexchange Restrictions*, 16 *MANAGERIAL & DECISION ECON.*
26 349, 356 (1995); Jerry A. Hausman, *Competition in Long-Distance and Telecommunications Markets: Effects of the*
27 *MFJ*, 16 *MANAGERIAL & DECISION ECON.* 365, 376 (1995); Kenneth J. Arrow, Dennis W. Carlton & Hal S. Sider,
28 *The Competitive Effects of Line-of-Business Restrictions in Telecommunications*, 16 *MANAGERIAL & DECISION ECON.*
29 301, 303–04 (1995); *see generally* DAVID E. M. SAPPINGTON & DENNIS L. WEISMAN, *DESIGNING INCENTIVE*
30 *REGULATION FOR THE TELECOMMUNICATIONS INDUSTRY* (AEI Press & MIT Press 1996).

1 Professor Mayo bears the burden of proof that redundant regulation of that sort is
2 essential to protecting consumers. To build such a case he would have to
3 demonstrate that (1) the rate at which antitrust enforcers detect anticompetitive
4 behavior is unacceptably low and (2) the harm to consumers resulting from failed
5 detection is so large as to offset the additional costs to consumers that his proposed
6 regulations would entail. Professor Mayo, however, presents no such evidence in
7 his testimony.

8 7. “[C]ondition initial and continued stranded cost recovery for PECO on the
9 progress in achieving these goals *and* on actual opening of PECO’s retail market to
10 competition.” (*Id.*, lines 18-20, emphasis in original.) Professor Mayo’s
11 recommendation necessarily implies protracted regulatory proceedings over the
12 extent to which PECO’s retail market has been opened. One must ask how Professor
13 Mayo would make operational this proposal. One wonders whether he would
14 propose that the Commission count the number of rivals providing service in
15 PECO’s region. As previously discussed, such structural measures of competition
16 are inadequate for actual measures of competitive performance. Further, Professor
17 Mayo’s approach relies on needless and costly regulatory intervention. Finally, it
18 bears emphasis that, in the extreme case in which no entry were observed in
19 generation because PECO cut its own price to the competitive level, Professor
20 Mayo’s exercise in counting competitors would deny any recovery of stranded costs
21 that had indisputably accrued. By “stranded costs,” I mean costs that a utility is
22 currently permitted to recover through its rates but whose recovery will be impeded

1 or prevented by the advent of competition. (PECO Statement 10, Sidak Direct
2 Testimony, at 6, lines 20-21.) As my testimony below makes clear, the competition
3 that causes compensable stranded costs is the result of regulatory change, as opposed
4 to exogenous changes in technology or market demand. Under Professor Mayo's
5 recommendation, the more aggressively that PECO would seek to price generation
6 at market-determined levels, the longer the company would be denied recovery of
7 its stranded costs. Thus, Professor Mayo's recommendation would encourage PECO
8 to keep its generation prices high until some minimum number of entrants had
9 appeared and satisfied Professor Mayo's quota.

11 5. Conclusions Concerning Professor Mayo's Direct Testimony

12 Q. **Would Professor Mayo's recommendations violate the equal opportunity principle?**

13 A. Yes. Professor Mayo's "Competition Enabling Approach" is the antithesis of equal
14 opportunity, for it actively counsels the regulator to favor certain firms and handicap
15 others. The Commonwealth did not opt for total deregulation of electric power. Rather,
16 the legislature decided, through the passage of the Competition Act, to continue to
17 impose certain incumbent burdens on PECO and other incumbent utilities. The
18 legislature balanced the continuation of those incumbent burdens in an open-access
19 marketplace with explicit provisions for cost recovery. Professor Mayo's
20 recommendations, however, would have the Commission tip that new balance struck by
21 the legislature and actively favor entrants over the incumbent. That result would produce
22 a thicket of "managed competition" that would not deliver to Pennsylvania's consumers

1 the full benefits of the more competitive environment that the legislature created.

2 **Q. Would Professor Mayo's recommendations violate the impartiality principle?**

3 A. Yes. Professor Mayo's recommendations would dictate the market structure for electric
4 power in Pennsylvania. His recommendations would not be impartial with respect to
5 various forms of contracting and organizational structure. He would have this
6 Commission impose regulatory barriers to efficient business structures. Those barriers
7 would be costly to consumers because they would raise transactions costs and impede
8 competition. At the same time, those barriers are unnecessary in light of existing
9 antitrust laws. Because the antitrust laws are laws of general applicability, they are likely
10 to be impartial with respect to technology, products and services, companies, and market
11 institutions.

12 **Q. Would Professor Mayo's recommendations violate the economic incentive principle?**

13 A. Yes. Professor Mayo's recommendations would make PECO's recovery of prudently
14 incurred investment a hostage to an ill-defined process of counting entrants or declines
15 in PECO's market share for generation. In effect, Professor Mayo is proposing that
16 PECO's *competitors* control the pace at which—or *whether*—PECO may recover
17 stranded costs. Such a result would represent a rewriting of the Competition Act, which
18 makes no mention of such an arrangement. PECO does not control the evolution of
19 competition. Rather, to be successful, potential entrants must skillfully supply and
20 market products that satisfy consumer preferences. PECO cannot control how skillfully
21 potential competitors perform that task.

22 Furthermore, as the regulatory litigation surrounding the Telecommunications Act

1 of 1996 well documents, Professor Mayo's recommendations would create a rich
2 opportunity for strategic use of the regulatory process by PECO's competitors and thus
3 would subject PECO's investments in network capacity to unprecedented risk. Such risk
4 would raise PECO's cost of capital and reduce its incentive and ability to make future
5 investments in the network.

6 7 C. Mr. Dirmeier's Analysis

8 1. Structural Separation

9 **Q. In light of the principles you advocate for a regulated code of conduct, how would**
10 **you characterize Mr. Dirmeier's testimony?**

11 A. Mr. Dirmeier's requirements to safeguard competition would do no more than impose
12 asymmetric regulatory requirements on the incumbent that would have the consequence
13 of stifling competition in restructured power markets. Mr. Dirmeier believes that, "left
14 unchecked," PECO management will not consider how their actions will affect "the
15 development of the competitive market." (Dirmeier Direct Testimony at 8-9.) Mr.
16 Dirmeier fails to understand the competitive process. As I stressed above, that process
17 is one in which firms continually strive to maximize their own returns by offering
18 consumers products and services at prices, quality levels, and reliability standards that
19 are more attractive than those offered by rival firms. Properly designed rules must
20 reward—not penalize—procompetitive conduct, by which I mean any production or
21 marketing activity that enhances efficiency and adds value to products and services in
22 the minds of consumers. There is no legal or economic justification to handicap the

1 advantaged competitor as long as markets are open and accessible to potential entrants.

2 Should PECO engage in unlawful conduct, the antitrust laws exist to protect consumers.

3 It would be unnecessary and costly for this Commission to reinvent the Sherman Act.

4 **Q. Mr. Dirmeier states that the Commission should mandate the “maximum level of**
5 **separation possible” to ensure that the Electric Distribution Company treats all**
6 **market participants in precisely the same manner. Do you agree?**

7 A. No. The legislature could have required structural separation but did not. It holds with
8 greater force that the legislature did not mandate “maximum” separation. The
9 shortcomings of structural separation are well understood. Such a “quarantine” is
10 unnecessary, costly to administer, and invites strategic abuse of the regulatory process
11 by competitors. The process of construing and applying rules of structural separation
12 inevitably fuels esoteric regulatory proceedings. Because regulatory decisions rather than
13 *market forces would determine whether and when the incumbent firm would be allowed*
14 *to compete in lucrative markets, one can expect the recurring regulatory proceedings to*
15 *be fiercely contested. Such regulatory litigation would be costly in its own terms, but*
16 *its greater cost would surely be in terms of delayed or forgone price competition and*
17 *product innovation. The experience with structural separation in the U.S.*
18 *telecommunications industry shows that regulatory mistakes may take years to correct.*¹⁶

19 **Q. Does structural separation eliminate the economies derived from vertical**
20 **integration?**

21 A. Yes. To the extent that such economies exist, as is likely to be the case in electricity,

22 16. In particular, I refer to the staggering delays in obtaining waivers of the Modification of Final Judgment’s
23 (the consent decree entered into by AT&T and the U.S. Department of Justice) line-of-business restrictions.

1 they would be lost. That loss represents a cost to society that must be included in any
2 analysis of the supposed benefits of structural separation. In fact, the loss of vertical
3 economies is one reason Professor Mayo warns against adopting structural separation.
4 (Mayo Direct Testimony at 17, lines 15-19.)

5 **Q. Does Mr. Dirmeier consider the costs of forgone economies of vertical integration**
6 **in his analysis?**

7 A. Mr. Dirmeier refers to the reduced benefits of economies of scope, which I take to be
8 a reference to the economies derived from vertical integration, although Mr. Dirmeier
9 does not use those economic terms precisely. He does state that his proposal to separate,
10 to the fullest extent possible, regulated and unregulated services “may” result in reduced
11 benefits of scope economies. (Dirmeier Direct Testimony at 21, lines 13-16.) It is my
12 belief that PECO’s code of conduct would already sacrifice some economies of scope
13 and vertical integration through its proposed segregation of certain employees, facilities,
14 and access to customer data. In my view, even that degree of destruction of economies
15 of scope and vertical integration is a net loss to consumer welfare because of the very
16 low risk that anticompetitive behavior by an incumbent firm could ever occur and escape
17 detection, prosecution, and punishment under existing public and private enforcement
18 of the antitrust laws. For that reason, it follows with even greater force that the
19 Commission should reject Mr. Dirmeier’s recommendation for further segregation of
20 activities, which would only result in greater destruction of economies of scope and
21 vertical integration, to the ultimate detriment of consumers.

22 **Q. Are you aware of economic studies that have attempted to quantify the magnitude**

1 of vertical economies in the electric utility industry?

2 A. Yes. In an article published in the *Journal of Industrial Economics*, Professor Mayo and
3 Professor David L. Kaserman presented empirical evidence on the existence of
4 significant economies of vertical integration between the generation and
5 transmission/distribution stages of electricity supply.¹⁷ Notably, Professor Mayo and
6 his coauthor concluded that those significant economies of vertical integration place “a
7 heavy burden on proponents of deregulation schemes that are premised on the forced
8 vertical divestiture in this industry.”¹⁸ That conclusion is inconsistent with Professor
9 Mayo’s testimony because he offers no empirical evidence in this proceeding to support
10 recommendations that also would diminish economies of vertical integration.

11
12 **2. Requirements to “Safeguard Competition”**

13 Q. Mr. Dirmeier recommends that “non-monopoly” activities should not be permitted
14 to use the name of the Electric Distribution Company (EDC). Do you agree?

15 A. No. Mr. Dirmeier’s basic position is that use of the PECO name confers an unfair
16 advantage on the non-monopoly business units. His concern rests on the notion that “the
17 name recognition of the EDC and its reputation developed over the years of providing
18 regulated electric utility service” will confer “a distinct advantage over its competition
19 in the local jurisdiction of the EDC.” (Dirmeier Direct Testimony at 25, lines 6-9.) He
20 also argues that “an affiliate of an EDC will use its relationship with the EDC to imply

21 17. David L. Kaserman & John W. Mayo, *The Measurement of Vertical Economies and the Efficient Structure*
22 *of the Electric Utility Industry*, 34 J. INDUS. ECON. 483 (1991).

23 18. *Id.* at 500.

1 to customers that its quality of service will be better, as a result of its affiliation with the
2 EDC.” (*Id.* at 24, lines 7-9.)

3 Mr. Dirmeier’s concerns are misplaced. Regulatory agencies should not prevent
4 incumbents from using their established brand names because the use of brand names
5 does not restrict entry, even if the incumbent has developed name recognition and
6 goodwill through past advertising.¹⁹ If a potential entrant can advertise as effectively
7 as an incumbent can, then the entrant is not deterred from entering. The entrant realizes
8 that it too has the ability to achieve *the same status* as the incumbent at some later
9 date.²⁰ Moreover, brand names embody information that is valuable to consumers.
10 Consequently, prohibiting an incumbent’s ability to compete using its established
11 reputation, goodwill, and brand loyalty in new, unregulated markets necessarily harms
12 consumers by removing the valuable information from the marketplace.

13 Thus, Mr. Dirmeier’s proposal would serve no purpose but to deny consumers
14 access to an important product attribute, thus removing valuable information from the
15 market. Through their brand names, firms signal quality to consumers. Firms strive to
16 achieve positive reputations and goodwill by offering consumers products and services
17 consistent with market demands. Eliminating a firm’s brand name harms consumers
18 because it reduces the firm’s economic incentive to undertake reputation-building
19 investments.

20 Furthermore, Mr. Dirmeier’s proposal takes no account of the First Amendment
21 implications of banning PECO’s use of its name. It does not require extensive analysis

22 19. Richard L. Schmalensee, *Brand Loyalty and Barriers to Entry*, 40 SO. ECON. J. 579 (1974).

23 20. C.C. von Weizsäcker, *A Welfare Analysis of Barriers to Entry*, 11 BELL J. ECON. 399 (1980).

1 of the commercial speech doctrine to recognize that adoption of Mr. Dirmeier's proposal
2 would immediately provoke a constitutional controversy.

3 **Q. Mr. Dirmeier recommends that the EDC should not be allowed to act as an agent**
4 **for any supplier or provider of competitive service, whether or not that supplier is**
5 **affiliated with EDC. Please comment.**

6 A. By artificially constraining the set of services that the EDC could provide from its
7 existing base of assets, this proposal by Mr. Dirmeier would limit the returns that an
8 EDC could earn relative to an entrant owned by an EDC located outside PECO's service
9 area. If the EDC could achieve cost advantages in the sale of competitive services, Mr.
10 Dirmeier's prohibition on its ability to function as a sales agent for such services would
11 needlessly raise the total cost of delivering such services to consumers. Mr. Dirmeier's
12 proposal would artificially channel business to firms with higher costs. A competitive
13 market does not distort consumer choices in that manner.

14 **Q. Mr. Dirmeier recommends that employees of the EDC should not be shared and**
15 **should be physically separated from employees of affiliated suppliers of competitive**
16 **services. Please comment.**

17 A. Even the code of conduct proposed by PECO would entail some sacrifice in consumer
18 benefits because of forgone economies of scope and vertical integration. (See paragraph
19 5 of PECO's proposed code of conduct, reproduced in footnote 12 above.) In light of
20 that consideration, PECO's proposed restrictions on the use of shared facilities are more
21 than reasonable, and its requirement that a PECO supplier pay PECO the higher of the
22 market price or cost when purchasing non-power goods or services should more than

1 satisfy the concerns of Mr. Dirmeier and other witnesses concerning PECO's so-called
2 competitive advantages. Mr. Dirmeier's separation proposal is another example of his
3 general theme of raising costs for the incumbent firm. A rule forbidding the sharing of
4 employees and mandating their physical segregation would raise the costs for the
5 incumbent firm by denying it economies of scope that arise from centralized office
6 space, communications facilities, and the like. It is doubtful that competing producers
7 of electricity that are poised to enter Pennsylvania retail market would offer services
8 strictly on a stand-alone basis, devoid of any economies of scope or vertical integration.
9 Mr. Dirmeier's prescription of economic apartheid would needlessly duplicate
10 overheads. Its obvious inefficiency would raise total industry costs for consumers.

11 **Q. Mr. Dirmeier recommends that the Commission adopt policies whereby the**
12 **derogation of the right of electric generation suppliers or end-users to direct access**
13 **is prohibited. Please comment.**

14 **A.** Mr. Dirmeier is concerned that the incumbent would not act to address transmission and
15 distribution constraints for retail transactions when new capacity is needed. Thus, he
16 advocates an "expansion obligation" or a showing of "good faith efforts to obtain the
17 approvals necessary for . . . expansion." (Dirmeier Direct Testimony at 35, lines 5-7.)
18 The solution, however, is not compulsory expansion and the establishment of procedures
19 to ensure that such expansion is provided in a timely manner, but rather to establish
20 proper economic incentives for expansion. The Commission can accomplish that goal by
21 allowing the incumbent to charge compensatory prices for access and capacity additions.
22 Consistent with the economic incentive principle, compensatory prices would allow a just

1 and reasonable (that is, competitive) return on distribution assets. If the Commission
2 failed to permit compensatory prices to be charged, it would violate the economic
3 incentive principle.

4 **Q. Mr. Dirmeier suggests that PECO should not be permitted to enter into “market-**
5 **priced” contracts unless PECO first offers to competitive suppliers the opportunity**
6 **to bid to provide service to the customer. Please comment.**

7 A. Mr. Dirmeier is concerned that customers will obtain service offerings at market-based
8 (that is, competitive) rates from PECO. The dilemma for Mr. Dirmeier is that that
9 occurs before rivals will have full access to all customers. Thus, he advocates that
10 “[c]ompetitive activities should not be undertaken by the monopoly T&D business unit.”
11 (Dirmeier Direct Testimony at 37, lines 3-5). Alternatively, he argues, “PECO should
12 not be permitted to enter into ‘market priced’ contracts unless PECO first offers to
13 competitive suppliers the opportunity to bid to provide service to the customer.” (*Id.* at
14 37, lines 12-14.) That recommendation is characteristic of Mr. Dirmeier’s basic position
15 in this proceeding: The Commission should handicap incumbents and favor entrants,
16 rather than serve the interests of consumers. Mr. Dirmeier is not the only witness
17 making this anti-consumer plea. Mr. Johnstone’s direct testimony also recommends that
18 the Commission require PECO to hold up a price umbrella for competitors by raising
19 its generation rate and cutting the competitive transition charge. (Johnstone Direct
20 Testimony at 15, lines 9-15.)

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3. Conclusions Concerning Mr. Dirmeier's Direct Testimony

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Q. Would Mr. Dirmeier's recommendations violate the equal opportunity principle?

A. Yes. Mr. Dirmeier recommends that this Commission embark on precisely the sort of regulatory handicapping that prompted Justice Breyer's warning in his well-known law review article on deregulation. Mr. Dirmeier's recommendations would handicap PECO, coddle entrants, and thus deny consumers the full benefits of the competitive process.

Q. Would Mr. Dirmeier's recommendations violate the impartiality principle?

A. Yes. Mr. Dirmeier's recommendations would impose artificial constraints on the degree to which an incumbent utility may, as a practical matter, harness economies of scope and vertical integration. In effect, Mr. Dirmeier is urging the Commission to regulate market structure, not market performance. Such a deviation from regulatory impartiality would serve the private economic interests of particular corporations entering the Pennsylvania electricity market, but it would not benefit Pennsylvania's consumers.

Q. Would Mr. Dirmeier's recommendations violate the economic incentive principle?

A. Yes. If adopted, Mr. Dirmeier's recommendations would reduce the incentive for an incumbent utility to make investments that give rise to economies of scope and vertical integration. Similarly, Mr. Dirmeier's recommendations would reduce the incumbent utility's returns to investing in the creation of a respected brand name. Such investments clearly benefit consumers. To discourage the incumbent firm from making such investments in the name of "safeguarding" competition is both cynical and perverse.

1 **D. Analyses of Ms. Alexander and Messrs. Biewald, Silkman, and Johnstone**

2 **Q. Have you reviewed the direct testimonies of Ms. Alexander, Mr. Biewald, and Mr.**
3 **Silkman in this proceeding?**

4 A. Yes. Like Professor Mayo and Mr. Dirmeier, those witnesses propose modifications to
5 PECO's proposed code of conduct that impose one-sided burdens on PECO. Their
6 proposals are unnecessary to achieve the full benefits of competition and would only
7 raise the average costs of providing electricity services to consumers in the PECO
8 service area.

9 **Q. Please explain why their proposals are unnecessary and how they would increase**
10 **costs.**

11 A. Their proposals are unnecessary because, as I have stated previously, the full benefits
12 of competition are achieved by providing all firms an equal opportunity to compete—not
13 by imposing "competitive handicaps" on the incumbent. As Justice Breyer observed,
14 public policy should serve the ends of competition rather than protect competitors.

15 Their proposed modifications will increase the cost of providing service to
16 consumers in a variety of ways. For example, Ms. Alexander argues (1) that "there
17 should be no shared employees, expenses or assets between the two entities other than
18 costs billed back to the EDC or holding company in compliance with existing affiliate
19 transaction requirements" (Alexander Direct Testimony at 42, lines 17-19); (2)
20 "transactions between the EDC and its affiliate should be limited to the purchase of
21 tariffed items generally available to other similarly situated electric suppliers, with the
22 exception of general and administrative support services which should be strictly defined

1 in PECO's written policies and subject to review by the Commission." (*Id.* at 42, lines
2 20-21; 43, lines 1-2.); and (3) "[a]ny affiliate shall maintain its own books of accounts,
3 have separate offices and utilize separate personnel, separate computer systems and other
4 equipment." (*Id.* at 43, lines 4-5).

5 Those proposals would raise the cost of PECO's competitive supply groups or
6 affiliates relative to that of its competitors because the proposals would deny the
7 incumbent utility any cost savings associated with the common use of facilities. It is
8 likely, if not highly probable, that PECO's competitors will enjoy the benefits of cost
9 sharing with its other divisions and/or affiliated companies. Stated simply, it is unlikely
10 that Delmarva Power & Light Company, Virginia Electric & Power Company, and
11 Enron Power Marketing Company—all applicants to provide electricity service in
12 Pennsylvania—will enter PECO's market on a stand-alone basis. It is far more likely that
13 those firms will share, to some extent, the assets of their other corporate entities and
14 thereby exploit economies of scope and vertical integration. Furthermore, PECO's
15 proposed code of conduct already contains restrictions concerning the sharing of
16 employees and the way that accounts and records would be maintained for PECO's
17 competitive supply operations. Although I doubt that such provisions are even necessary,
18 those provisions should more than satisfy Ms. Alexander's concerns. As I stated earlier,
19 even PECO's proposed code of conduct will sacrifice some consumer benefits from
20 economies of scope and vertical integration. It would be perverse to force consumers to
21 endure even greater sacrifices in efficiency in the name of protecting them from
22 competitive harm.

1 Ms. Alexander proposes other actions that would needlessly raise PECO's costs,
2 such as tracking and annual reporting of employees transferred between the EDC and
3 the affiliate. (Alexander Direct Testimony at 43, lines 7-8). The Commission could
4 address that concern more efficiently by proposing reasonable restrictions on employee
5 movement.

6 Mr. Silkman advocates "full divestiture of all generating and marketing affiliates of
7 the [local distribution utility]." (Silkman Direct Testimony at 18, line 21; 19, line 8.)
8 That proposal is at odds with Pennsylvania law, which provides, "The Commission may
9 permit, but shall not require, an electric utility to divest itself of facilities or to
10 reorganize its corporate structure."²¹ Similarly, Mr. Biewald states that the Commission
11 "should encourage divestiture in its restructuring and ratemaking policies." (Biewald
12 Direct Testimony at 22, lines 30-31.) As I discussed above, and as Professor Mayo has
13 concluded in his scholarly research, such policies would raise costs because the cost
14 savings derived from vertical integration would vanish, to the consumer's detriment.

15 **Q. Do any of these witnesses recommend other policies that would needlessly raise the**
16 **costs of providing service to consumers in Pennsylvania?**

17 **A. Yes.** Mr. Biewald believes that market concentration statistics are valid indicators of
18 competitiveness. He therefore argues that limits on the concentration of ownership of
19 generating capacity should be established. (Biewald Direct Testimony at 22, lines 32-33.)

20 Mr. Biewald's conclusion that market structure determines competitiveness is not a valid
21 economic position. His limits on concentration of ownership can have as their effect the

22 21. 66 PA. C.S. § 2804(5).

1 elimination of socially desirable cost savings that result from achieving scale economies.
2 Mr. Biewald also suggests that “detailed modeling studies should be conducted, in which
3 strategic behavior be analyzed in the context of real markets.” (*Id.* at 22, lines 34-36).
4 Such studies would be a boon to economic consultants, but the benefits of such analyses
5 are doubtful. If the Commission were to conclude that such studies are appropriate, then
6 their costs should be borne equally by all market participants.

7 **Q. Have you reviewed the direct testimony of Mr. Johnstone in this proceeding?**

8 A. Yes. Mr. Johnstone’s principal criticism of PECO’s proposed code of conduct is that
9 PECO’s proposals concerning metering and billing do not, in Mr. Johnstone’s view, go
10 beyond what is “expressly provided by the Competition Act.” (Johnstone Direct
11 Testimony at 26, lines 4-5.)

12 **Q. Do you agree with Mr. Johnstone’s criticism?**

13 A. No. Mr. Johnstone is really criticizing the Competition Act. The proper audience for his
14 comments is the legislature. An incumbent utility can hardly be criticized for proposing
15 a code of conduct that complies with the statute.

16
17 **II. MR. BRADFORD AND DR. COOPER ON STRANDED COSTS,**
18 **THE REGULATORY CONTRACT, AND TAKINGS**
19

20 **Q. Please summarize how your rebuttal testimony differs from Mr. Bradford’s direct**
21 **testimony.**

22 A. There is a regulatory contract in Pennsylvania. This is evidenced by the municipal
23 franchises granted to PECO and its predecessors (*see* Exhibit JGS-2, Affidavit of
24 Katherine K. Combs); the course of dealing between PECO and this Commission,

1 particularly prudency reviews (*see* Hill Direct Testimony); and the repeated recognition
2 of that regulatory bargain by the Commission and the Pennsylvania courts (*see* Exhibit
3 JGS-3). Indeed, this Commission has reiterated the existence of that contract recently.
4 In 1994, the Commission observed: “The regulatory compact has deftly minimized
5 financial risk over the last several decades.”²² Last year, in a case specifically
6 involving PECO, the Commission stated: “Under the existing regulatory compact,
7 electric utilities do long-term planning and build generation capacity to meet the power
8 needs of all of its customers—industrial, commercial and residential.”²³ In addition to
9 those recent statements by the Commission, there is ample evidence in PECO’s case of
10 municipal franchises and Commission orders that manifest that long-recognized bargain.
11 Moreover, the Competition Act presumes the existence of that bargain and takes steps
12 to ensure that a fundamental change in that bargain does not deny electric utilities in
13 Pennsylvania their reasonable expectation of recovering the economic costs that they
14 have prudently incurred to provide service to the public.

15 Mr. Bradford and other witnesses who oppose PECO in this proceeding do not
16 seriously contest the existence of the regulatory contract in Pennsylvania. Furthermore,
17 they fail to provide any evidence that disavows or controverts the proposition that a
18 utility in Pennsylvania is entitled as a matter of law to the reasonable opportunity to earn
19 a return of, and a return on, the prudent investments that were necessary for it to make
20 to perform its public service obligations. The means by which the Commonwealth of

21 22. Investigation into Electric Power Competition, Docket No. I-940032, 1994 Pa. PUC LEXIS 24, at *33 (Pa.
22 Pub. Util. Comm’n 1994).

23 23. Pennsylvania Pub. Util. Comm’n v. PECO Energy Co., R-00943281; R-00943281C0001;
24 R-00943281C0002; R-00943281C0003, 1996 Pa. PUC LEXIS 34, at *32 (Pa. Pub. Util. Comm’n 1996).

1 Pennsylvania and other states provided the utility with that reasonable opportunity was
2 by regulating entry (though not necessarily by conferring a statutory monopoly) and by
3 at least implicitly promising not to take regulatory actions that would interfere with the
4 utility's ability to achieve that recovery of prudently incurred costs.

5 Far from dispelling the existence of the regulatory contract in Pennsylvania, Mr.
6 Bradford's testimony reinforces the conclusion in my direct testimony that the regulatory
7 contract indeed exists. Specifically, Mr. Bradford acknowledges that municipal
8 franchises had "the status of a contract, which the state could not impair," such that
9 "[c]hanges in the prescribed rates" or other franchise provisions were "often
10 impossible." (Bradford Direct Testimony at 5.) Mr. Bradford then speculates that state
11 regulation had the purpose and effect not of refining those preexisting municipal
12 contracts, but of abrogating them. He fails, however, to identify any Pennsylvania law
13 or decision that supports his conjecture. To the contrary, as I note below, Pennsylvania
14 decisions have long recognized the bargain that exists between utilities, the
15 Commonwealth, and ratepayers.

16 Mr. Bradford relies upon a state court decision from Maine²⁴ and a nineteenth
17 century Supreme Court decision²⁵ to argue that no regulatory compact can exist unless
18 all its terms are expressed explicitly. That erroneous reasoning ignores the numerous
19 binding Supreme Court decisions that make clear that a government franchise need not
20 explicitly guarantee a reasonable opportunity to recover investments made in reliance on
21 that franchise, for such an understanding may be readily inferred. In chapter 4 of my

22 24. *Waukeag Ferry v. Arey*, 128 Me. 108, 146 A. 10 (1929).

23 25. *Charles River Bridge v. Warren Bridge*, 36 U.S. (11 Pet.) 420, 542-43 (1837).

1 book with Professor Spulber, which is reproduced in Exhibit JGS-1, we provide
2 exhaustive documentation of those decisions. Moreover, the plurality in the Supreme
3 Court's 1996 decision in *United States v. Winstar Corporation*, relying on those cases,
4 found that government promises need not be "unmistakable" or explicit if, as here, the
5 private actor is not seeking to *prevent* the government from unilaterally altering the
6 relevant policy regime, but is merely seeking compensation for financial harm caused
7 by that alteration.²⁶ (I discuss *Winstar* exhaustively in chapter 4 of *Deregulatory*
8 *Takings and Regulatory Contract*, Exhibit JGS-1, at 171-76.) Thus, the two cases that
9 Mr. Bradford cites, in which the private contractor sought to *enjoin* competition, are
10 beside the point.

11 Mr. Bradford also argues that there is no "regulatory compact" because, he asserts,
12 that precise term was not widely used until roughly the late 1970s. Obviously, the
13 existence of a bargain does not turn on the particular label affixed to it. As my direct
14 testimony noted and as I reiterate below, since at least the turn of the twentieth century
15 the U.S. Supreme Court has recognized and enforced the bargains that governments have
16 made with utilities (and other franchisees). So have the Pennsylvania courts.

17 Contrary to Mr.,Bradford's suggestion, *Market Street Railway* is irrelevant because
18 PECO does not seek to be free of competition or to recover for losses caused by
19 "normal economic forces." *Market Street Railway* (discussed exhaustively in chapter 6
20 of *Deregulatory Takings and Regulatory Contract*, Exhibit JGS-1, at 256-62)

21 26. 116 S. Ct. 2432, 2453-59 (1996); *see also id.* at 2478 (Scalia, J., concurring) (contractual promise may be
22 inferred from "the special role of the agencies, and the terms and circumstances of the transactions").

1 demonstrates only that regulators are not obligated to set rates providing for a profitable
2 return for the utility when underlying economic conditions facing the industry make that
3 result impossible to achieve. Here, in contrast, it is not independent economic forces that
4 frustrate cost recovery; rather, it is a reversal in public policy in an industry that, under
5 the prior regime, had been capable of recovering its costs. The Market Street Railway's
6 costs were unrecoverable because of economic conditions having nothing to do with
7 changes in regulatory policy, whereas the costs that PECO seeks to recover have become
8 stranded solely because of the government's change in public policy. That the
9 Commonwealth has not promised, and the Fifth Amendment does not require, the
10 recovery of stranded costs in the former situation hardly suggests that PECO is not
11 entitled to recover its stranded costs in the latter situation.

12 More generally, contrary to the claims of Mr. Bradford, Professor Mayo, and Mr.
13 Brehm, PECO is not seeking to be free of competition. Instead, PECO contends simply
14 that the Commission must consider how its decision to induce competition will affect
15 PECO's financial health. The Commission must consider its past policies that have
16 required PECO to make massive capital investments, as well as its recent alteration of
17 that policy, which will eliminate PECO's ability to achieve full recovery of those costs
18 through its prices for electricity. Moreover, the Commonwealth's new policies, contrary
19 to the opponents' direct testimony, do not create "free market" competition. If the
20 market for electricity in Pennsylvania were truly free and competition were unfettered,
21 PECO could, subject to the general constraints that the antitrust laws place on all firms
22 in the economy, deny access to its competitors, charge whatever prices it desired, and

1 refuse to provide service to any customer. The Commonwealth, however, has
2 prospectively mandated that PECO provide access to its competitors *and* continue its
3 public service obligations. Those requirements will cause a physical taking and
4 contribute directly to PECO's stranded costs. Although the Commonwealth is authorized
5 under the police power to impose those incumbent burdens on PECO, those asymmetric
6 regulatory obligations reinforce the conclusion that PECO's stranded costs do not result
7 from the operation of economic risks that generally would confront any company in a
8 free market, but rather from obligations that continue to be imposed on a company
9 providing the public an essential service. Such an exercise of the police power
10 necessarily triggers the Commonwealth's duty to pay just compensation under the
11 Takings Clause unless the Commonwealth establishes an alternative means of effecting
12 an equivalent degree of cost recovery.

13 **Q. Please summarize how your rebuttal testimony differs from Dr. Cooper's direct**
14 **testimony.**

15 **A.** Dr. Cooper's arguments about stranded cost and the regulatory contract are very similar
16 to Mr. Bradford's. For brevity, I will therefore respond below to Dr. Cooper in the
17 context of my answers concerning Mr. Bradford's direct testimony. Similarly, the
18 foregoing comments concerning Mr. Bradford's direct testimony apply as well to Dr.
19 Cooper's direct testimony, although it bears emphasis that Dr. Cooper cites *no* legal,
20 economic, or historical authority for his erroneous discussion of the regulatory contract.
21 In addition, although Dr. Cooper appears to take the position that there is no regulatory
22 contract requiring recovery of stranded costs, he nonetheless takes the inconsistent and

1 arbitrary position that a utility should be permitted to recover only 50 percent of costs
2 that the regulator deems to be stranded. (Cooper Direct Testimony at 21, lines 3-9; 22,
3 lines 3-10; 23, lines 16-19.) Dr. Cooper does not rebut my direct testimony that the
4 Takings Clause compels recovery of stranded cost.

5 In contrast to Dr. Cooper's direct testimony, it is my testimony that stranded cost
6 recovery is required by both the regulatory contract and the Takings Clause, and that the
7 utility is entitled to recover 100 percent of its stranded costs.

8

9

A. The Regulatory Contract

10 Q. What are Mr. Bradford's criticisms of your testimony on the regulatory contract?

11 A. Mr. Bradford makes six arguments that, in his view, show that no enforceable regulatory
12 contract exists. In each case, Mr. Bradford fails to marshall the analysis that would be
13 necessary to prove his case.

14

15

1. Cases Construing the Regulatory Contract

16 Q. Is Mr. Bradford's correct, in his first argument, that there is shortage of cases
17 construing the regulatory contract?

18 A. No. Mr. Bradford's remark is without merit. He states that the only support that I
19 provided of cases construing the regulatory contract was "a handful of toll bridge cases
20 dependent on the terms of the specific franchise involved." (Bradford Direct Testimony
21 at 5) That statement is false. Pages 9 and 10 of my testimony discuss *New Orleans*

1 *Water-Works Co. v. Rivers*,²⁷ *New Orleans Gas Co. v. Louisiana Light Co.*,²⁸ *Walla*
 2 *Walla City v. Walla Walla Water Co.*,²⁹ and *Detroit v. Detroit Citizens' Street Railway*
 3 *Co.*³⁰ Mr. Bradford's testimony does not acknowledge any of those cases.

4 Contrary to Mr. Bradford's testimony, the understanding of utility regulation as
 5 contract permeates a number of Supreme Court decisions from the late nineteenth and
 6 early twentieth centuries, as evidenced in chapter 4 of *Deregulatory Takings and the*
 7 *Regulatory Contract*, Exhibit JGS-1, at 145-60. For example, in a 1912 decision
 8 concerning municipal regulation of gas prices, *Cedar Rapids Gas Light Co. v. City of*
 9 *Cedar Rapids*, Justice Oliver Wendell Holmes wrote for a unanimous Supreme Court
 10 that such regulation "has to steer between Scylla and Charybdis,"³¹ for it resulted from
 11 bilateral bargaining in the shadow of takings jurisprudence:

12 On the one side if the franchise is taken to mean that the most profitable return
 13 that could be got, free from competition, is protected by the Fourteenth
 14 Amendment, then the power to regulate is null. On the other hand if the power
 15 to regulate withdraws the protection of the Amendment altogether, then the
 16 property is nought. This is not a matter of economic theory, *but of fair*
 17 *interpretation of a bargain*. Neither extreme can have been meant. A midway
 18 between them must be hit.³²

19
 20 Municipal regulation resulted from voluntary exchange: "It is true that the contract was
 21 in the form of an ordinance, but the ordinance was drawn as a contract to be accepted
 22 and it was accepted" by the utility.³³

23 27. 115 U.S. 674 (1885).

24 28. 115 U.S. 650 (1885).

25 29. 172 U.S. 1 (1898).

26 30. 184 U.S. 368 (1902).

27 31. 223 U.S. 655, 669 (1912).

28 32. *Id.* at 669-70 (emphasis added).

29 33. *Id.* at 667-68.

1 Similarly, in *Russell v. Sebastian* a unanimous Court in 1914 reiterated the concern
2 over contractual opportunism and specifically endorsed a public service corporation's ex-
3 pectation of a profitable rate of return on its investment.³⁴ The Court reasoned that a
4 private enterprise accepted a franchise offer with the expectation to earn a profitable rate
5 of return on the investments required to fulfill its obligations under the franchise con-
6 tract.³⁵ The Court viewed such an expectation to be inherent in the parties' bargained-
7 for exchange, and it noted that contract formation relied heavily on notions of
8 detrimental reliance and investment-backed expectations:

9 [T]he provision plainly contemplated the establishment of a plant devoted to the
10 described public service and an assumption of the duty to perform that service.
11 That the grant, resulting from an acceptance of the State's offer, constituted a
12 contract, and vested in the accepting individual or corporation a property right,
13 protected by the Federal Constitution, is not open to dispute in view of the
14 repeated decisions of this court.³⁶

15
16 A "practical, common-sense construction" of the regulatory contract led the Court to
17 reject the proposition that "the investment in extensive plants—in the construction of
18 reservoirs, and in the building of manufacturing works—was invited without any
19 assurance that the laying of the distributing system could be completed or that it could
20 even be extended far enough to afford any chance of profit."³⁷

21 Later in the same year, Justice Hughes wrote the opinion for a unanimous Court in
22 *New York Electric Lines v. Empire City Subway Co.*,³⁸ which posed the question of
23 whether a franchise to use the streets of New York City to bury electrical lines

24 34. 233 U.S. 195, 210 (1914).

25 35. *Id.*

26 36. *Id.* at 204.

27 37. *Id.* at 205, 208.

28 38. 235 U.S. 179 (1914).

1 constituted a contract and, if so, whether the contract had been unconstitutionally
2 impaired. On the existence of the contract, Justice Hughes wrote: "Grants like the one
3 under consideration are not nude pacts, but rest upon obligations expressly or impliedly
4 assumed to carry on the undertaking to which they relate. They are made and received
5 with the understanding that the recipient is protected by a contractual right from the
6 moment the grant is accepted and during the course of performance as contemplated, as
7 well as after that performance."³⁹

8

9 2. The Transition from Municipal Franchising to State Regulation

10 Q. Mr. Bradford asserts that your analysis of the evolution from municipal franchising
11 of utilities to state public utilities commission regulation is incorrect. Do you agree?

12 A. No. Chapter 4 of *Deregulatory Takings and the Regulatory Contract*, attached in Exhibit
13 JGS-1, contains an exhaustive discussion on this point. Only two points deserve mention
14 here. First, Mr. Bradford asserts that state regulation represented a repudiation of "the
15 contractual aspect of franchise regulation." (*Bradford Direct Testimony at 5*). It bears
16 emphasis that Mr. Bradford is conceding that the municipal franchise was indeed a
17 contract. Second, Mr. Bradford's discussion of the transition from municipal franchising
18 to state regulation is illogical and unsupported. He quotes a passage from Charles F.
19 Phillips, Jr., *The Regulation of Public Utilities: Theory and Practice* 130-32 (Public
20 Utils. Reports, Inc., 3d ed. 1993), for the proposition that the Supreme Court's decision
21 in *Trustees of Dartmouth College v. Woodward*, 17 U.S. (4 Wheat.) 518, 643 (1819),

22 39. *Id.* at 193 (citations omitted).

1 prevented states from impairing contracts, including franchise contracts. It is true that
2 contract impairment cases arose because of breaches of municipal franchise agreements.
3 But it is illogical to argue that an 1819 decision explains why franchises created in the
4 1880s and 1890s were replaced by the creation of state public utilities commissions
5 during the period of 1907 to 1922.

6 **Q. Mr. Bradford asserts, at page 6 of his testimony, that “the contractual**
7 **characteristics of municipal franchises were among the main reasons that state**
8 **regulation supplanted them.” Do you agree?**

9 A. No. Published research by Professor George L. Priest of Yale Law School, cited at page
10 8 of my direct testimony, disproves Mr. Bradford’s assertion.⁴⁰ Professor Priest’s
11 conclusion, with which I concur, is that municipal franchising of utilities was a form of
12 long-term contracting that by its nature implied that not all details could be specified in
13 advance in the franchise agreement. To allow greater flexibility in the performance of
14 the franchise contract, municipalities created administrative boards rather than attempting
15 to draft increasingly complex franchise documents. From those administrative boards
16 grew the state regulatory commissions. Chapter 4 of *Deregulatory Takings and the*
17 *Regulatory Contract*, Exhibit JGS-1, at 160-63, contains a complete discussion of this
18 subject.

19 **Q. Mr. Bradford asserts, at page 6, footnote 9, of his direct testimony, that the**
20 **“unmistakability” doctrine undercuts the existence of an enforceable regulatory**
21 **contract. Do you agree?**

22 40. George L. Priest, *The Origins of Utility Regulation and the “Theories of Regulation” Debate*, 36 J.L. &
23 ECON. 289 (1992).

1 A. No. Chapter 4 of *Deregulatory Takings and Regulatory Contract*, Exhibit JGS-1, at
2 171-76, contains a detailed discussion of the relevant Supreme Court decisions that
3 demonstrate that Mr. Bradford is misinformed. The Court's decisions show that actual
4 franchise contracts did indeed satisfy the unmistakability doctrine such that utilities were
5 able to enforce their contracts against municipalities in the event of breach.

6
7 **3. Disallowance of Prudent Investment Not Used and Useful**

8 **Q. Mr. Bradford claims that you “do not explain the inconsistency between**
9 **Pennsylvania’s longstanding policy of disallowing prudent investment not found to**
10 **be used and useful and [your] articulation of the regulatory contract.” Do you**
11 **agree?**

12 A. No. Mr. Bradford’s primary contention is that PECO and the Commonwealth of
13 Pennsylvania (acting through the Commission) could not have understood that PECO
14 would have an opportunity to earn a return of, and a return on, prior investments made
15 in a market with regulated entry because Pennsylvania could and did exclude from the
16 rate base of public utilities prudent investments that later proved not to be “used and
17 useful” in discharging the obligation to serve the public. That reasoning wholly
18 misconceives the nature of the regulatory contract and the “used and useful” doctrine.

19 The regulatory contract envisions that the utility will have a reasonable opportunity
20 to recover the cost of, and earn a fair rate of return on, its prudent investments over the
21 life of the asset. The Commission provides that opportunity by regulating entry. It is not
22 my contention that, by entering into the regulatory contract, the Commonwealth

1 *guaranteed* PECO a fair rate of return in an entry-regulated environment, even if its
2 investments proved in hindsight not to be prudent and useful. Rather, the
3 Commonwealth's duty under the regulatory contract is either to forbear from *interfering*
4 with the utility's opportunity to earn that return *or* to compensate the utility for its losses
5 attributable to the Commonwealth's interference.

6 The "used and useful" rationale for disallowance is simply that the utility's
7 investment, though prudent when made, is not useful in hindsight. If an investment
8 proves, in practice, to produce excess capacity because of exogenous changes in market
9 demand or technology, the government need not indemnify the utility's shareholders. But
10 the government *does* have an obligation to compensate the utility for investments that
11 were prudent when made and that would have been useful *ex post but for* the
12 government's unilateral change in regulatory policy. Thus, government must compensate
13 the utility for losses caused by the government's alteration *of* the prior regulatory
14 regime, even though it need not insure investors against risks willingly borne by the
15 utility *under* that prior regulatory regime. That distinction is fundamental under the
16 Takings Clause and is reflected in the case that Mr. Bradford cites, *Market Street*
17 *Railway Co. v. Railway Commission*,⁴¹ which I discuss more fully below. Although the
18 Fifth Amendment does not require the payment of just compensation for declines in a
19 utility's value owing to exogenous changes in market demand or technology, that
20 constitutional provision clearly does "prevent *government* destruction of existing

21 41. 324 U.S. 548 (1945) (cited in Bradford Direct Testimony at 6; Bradford & Silkman Direct Testimony, Dkt.
22 No. R-00973877, at 15).

1 economic values” absent the payment of just compensation.⁴² Stated differently,
2 although utilities’ “shareholders . . . voluntarily assumed [the] risk” that they would not
3 recover the cost of investments that prove “useless” in a protected regulatory regime
4 because of “normal business” fluctuations, they did not consent to assume the risk that
5 investments that were useful in that protected regulatory regime would subsequently be
6 rendered “useless” *by the Commonwealth itself* as a result of its introduction of
7 mandatory retail wheeling and its elimination of the prior means by which the
8 Commonwealth had afforded utilities a reasonable opportunity to recover their economic
9 costs.⁴³ PECO’s prior investments will cease to be “used and useful” precisely and only
10 because the Commonwealth has altered the prior protected regime, which was designed
11 to permit cost recovery.

12 Contrary to Mr. Bradford’s suggestion, the disallowances of prudently incurred costs
13 under the “used and useful” standard did not put investors on notice that the regulatory
14 bargain would be altered to disable shareholders from earning a fair return on their
15 prudent investments. It is far more plausible that investors reasonably expected that they
16 would recover investments that proved useful in a regime with entry regulation and that
17 the prudence disallowances gave them no indication that the Commonwealth would end
18 that regime altogether. To the contrary, prudence disallowances generally are interpreted
19 as *stricter* regulation—a tightening of controls on the regulated utility, not the loosening
20 of controls that supposedly presages the move to a competitive market.

21 42. *Id.* at 567 (emphasis added).

22 43. *Pennsylvania Elec. Co. v. Pennsylvania Pub. Util. Comm’n*, 502 A.2d 130, 136 (Pa. 1965) (cited in
23 *Bradford & Silkman Direct Testimony*, Dkt. No. R-00973877, at 14).

1 **4. Mr. Bradford's Misunderstanding of *Market Street Railway***

2 **Q. Mr. Bradford states (Bradford Direct Testimony at 6) that you do not discuss**
3 ***Market Street Railway*. He states that the decision “holds that a utility need not be**
4 **reimbursed for losses occasioned by competition even when that competition is itself**
5 **sanctioned, licensed or otherwise assisted by the state.” Is Mr. Bradford's reading**
6 **of *Market Street Railway* correct?**

7 **A. No. Mr. Bradford's reading of *Market Street Railway Co. v. Railroad Commission of***
8 ***California*⁴⁴ is misplaced for several reasons summarized earlier and discussed in detail**
9 **in chapter 6 of *Deregulatory Takings and the Regulatory Contract*, Exhibit JGS-1, at**
10 **256-62. As the discussion in my book with Professor Spulber shows, recent decisions**
11 **by the Texas, Vermont, and New Hampshire commissions, as well as a decision by state**
12 **trial court in New York, seriously misapprehend the holding of *Market Street Railway*.**

13 Mr. Bradford's reading of *Public Service Commission of Montana v. Great Northern*
14 ***Utilities Co.*⁴⁵ also is incorrect. Mr. Bradford cites that decision as being consistent**
15 **with *Market Street Railway*. The similarity is merely rhetorical and consists of the**
16 **statements that “[t]he loss of, or failure to obtain, patronage, due to competition, does**
17 **not justify the imposition of charges that are exorbitant and unjust to the public,” and**
18 **that takings jurisprudence “does not protect public utilities against such business**
19 **hazards.”⁴⁶ The case, however, concerned a municipality's refusal to authorize a utility**
20 **holding a nonexclusive franchise to *lower* its rates sufficiently to stem the loss of sales**

21 44. 324 U.S. 548 (1945).

22 45. 289 U.S. 130 (1933).

23 46. *Id.* at 135.

1 to a competing entrant. See chapter 6 of *Deregulatory Takings and the Regulatory*
2 *Contract*, Exhibit JGS-1, at 258-59.

3 **Q. Do you believe that Dr. Cooper also misunderstands *Market Street Railway*?**

4 A. Dr. Cooper's direct testimony indicates either that he does not know of the *Market Street*
5 *Railway* decision or that he does not understand its holding. In apparent response to my
6 direct testimony, Dr. Cooper states: "Regulation never indemnified utilities against the
7 changes brought on by technological progress. Regulation never protected utilities from
8 either supply-side or demand-side competition." (Cooper Direct Testimony at 66, lines
9 19-21.) My discussion of *Market Street Railway* in chapter 6 of *Deregulatory Takings*
10 *and the Regulatory Contract*, Exhibit JGS-1, at 256-62, makes clear that I have not
11 described the regulatory contract in those terms. Dr. Cooper knocks down a straw man,
12 although it is unclear from his testimony whether he is aware that he has set up the straw
13 man in the first place.

14

15 **5. The Council of Economic Advisers Has Not Withdrawn**
16 **Its Endorsement of Recovery of Stranded Costs**

17

18 **Q. Do you agree with Mr. Bradford's claim (Bradford Direct Testimony at 7) that the**
19 **Council of Economic Advisers has backed away from its support of recovery of**
20 **stranded costs?**

21 A. No. Mr. Bradford quotes the 1997 *Economic Report of the President* as warning, "To
22 avoid creating [an] incentive [for the utility to engage in wasteful investments], a
23 presumption in favor of cost recovery should apply only for costs incurred to comply
24 with specific regulatory mandates or before competition became a significant prospect."

1 (Bradford Direct Testimony at 7 (quoting 1997 *Economic Report of the President* 207).)

2 The most sensible interpretation of “costs incurred to comply with specific regulatory
3 mandates” is “costs incurred to discharge the utility’s obligation to serve”—that is, the
4 utility’s stranded costs. Next, Mr. Bradford finds it significant that the Council “adds
5 a further qualification, that ‘such recovery should be limited to investment expenses not
6 already recovered through past earnings.’” (Bradford Direct Testimony at 7 (quoting
7 1997 *Economic Report of the President* 204–05).) To my knowledge, however, no one
8 is suggesting that utilities should be allowed to recover the cost of their prudently
9 incurred investments twice. Thus, neither of those two passages quoted from the 1997
10 *Economic Report of the President* can be taken to represent “movement away” (Bradford
11 Direct Testimony at 7) from the Council’s 1996 conclusion that “[a] strong case . . . can
12 be made for allowing utilities to recover stranded costs where those costs arise from
13 after-the-fact mistakes or changes in regulatory philosophy toward competition, as long
14 as the investments were initially authorized by regulators.”⁴⁷

16 6. Scholarly Commentary on the Sidak-Spulber Article

17 Q. Mr. Bradford asserts that, in presenting your evidence on the regulatory contract,
18 you have “chosen not to address much . . . argument to the contrary.” In
19 particular, he mentions William J. Baumol, Thomas W. Merrill, Alfred E. Kahn,

20 47. 1996 ECONOMIC REPORT OF THE PRESIDENT 187 (Government Printing Office 1996) (emphasis added). In
21 1997 the Antitrust Division of the Department of Justice endorsed the proposition that “stranded costs . . . be
22 assessed on a competitively neutral basis.” Hearings before the House Comm. on the Judiciary, 105th Cong., 1st
23 Sess. (June 4, 1997) (testimony of A. Douglas Melamed, Principal Deputy Assistant Attorney General, Antitrust
24 Division, U.S. Department of Justice).

1 Irwin M. Stelzer, Judge Stephen F. Williams, and Oliver E. Williamson. How have
2 you addressed the comments of these various scholars and jurists?

3 A. Contrary to Mr. Bradford's suggestion, it is fair to say that the published or
4 *forthcoming comments on my article with Professor Spulber* agree with us to a far
5 greater extent than they disagree. Judge Williams and Professors Williamson, Baumol,
6 and Merrill do not dispute the existence of a regulatory contract, and they all concur
7 with us in the importance of protecting investor expectations. Judge Williams calls the
8 article "overall, a powerful and incisive analysis" that is "likely to frame debate over
9 [restructuring] issues for at least the remainder of the current wave of unbundlings."⁴⁸
10 Professor Williamson concludes: "My reservations with Sidak and Spulber
11 notwithstanding, there is much with which I agree. For one thing, I agree that a
12 contractual approach to regulation in which transaction cost economics features are
13 prominent has much in its favor."⁴⁹ Professors Baumol and Merrill, who mainly are
14 concerned with distinguishing the regulatory contract in local telephony from that in
15 electric power, conclude that "Sidak and Spulber have made a considerable contribution
16 to our understanding of an important and complex subject, primarily by reminding us
17 of the importance of protecting investors' legitimate reliance interests."⁵⁰

18 Mr. Bradford is incorrect to suggest that Professor Spulber and I have not addressed
19 the comments on our article. The comments on the Sidak-Spulber article by Judge

20 48. Stephen F. Williams, *Deregulatory Takings and Breach of the Regulatory Contract: A Comment*, 71 N.Y.U.
21 L. REV. 1000, 1005, 1006 (1996).

22 49. Oliver E. Williamson, *Deregulatory Takings and Breach of the Regulatory Contract: Some Precautions*, 71
23 N.Y.U. L. REV. 1007, 1020 (1996).

24 50. William J. Baumol & Thomas W. Merrill, *Deregulatory Takings, Breach of the Regulatory Contract, and*
25 *the Telecommunications Act of 1996*, 72 N.Y.U. L. REV. at ms 45 (forthcoming 1997).

1 Williams and Professor Williamson were published concurrently in the *New York*
2 *University Law Review* with the Sidak-Spulber article. In an article forthcoming in late
3 1997 in the *New York University Law Review*,⁵¹ Professor Spulber and I respond to
4 Judge Williams and Professor Williamson, as well as to Professors Baumol and Merrill.
5 I am not aware that Dr. Stelzer has ever directly criticized my publications in writing.
6 Nonetheless, my 1996 article with Professor Spulber in the *New York University Law*
7 *Review* extensively addressed Dr. Stelzer's own arguments concerning stranded cost
8 recovery at pages 980-87. Professor Kahn's paper is evidently unpublished and I have
9 not seen it.

11 7. Mr. Bradford's Misinterpretation of *Jersey Central*

12 Q. Do you agree with Mr. Bradford that the *Jersey Central* case supports his
13 interpretation of the regulatory contract?

14 A. No. Mr. Bradford cites Judge Kenneth Starr's 1987 concurring opinion in *Jersey Central*
15 *Power & Light v. FERC*⁵² as support for the view that there is no constitutional basis
16 for recovery of stranded costs. That reliance is misplaced for reasons discussed at length
17 in chapter 6 of *Deregulatory Takings and the Regulatory Contract*, Exhibit JGS-1, at
18 268-72. In brief, *Jersey Central* involved a challenge by an electric utility of a FERC
19 decision to reduce the company's rates. The question of whether FERC's order consti-
20 tuted an unconstitutional taking was *not* before the D.C. Circuit. Rather, the questions

21 51. J. Gregory Sidak & Daniel F. Spulber, *Givings, Takings, and the Fallacy of Forward-Looking Costs*, 72
22 N.Y.U. L. REV. (forthcoming 1997).

23 52. 810 F.2d 1168 (D.C. Cir. 1987).

1 the court decided were, first, whether FERC was obligated under *Federal Power*
2 *Commission v. Hope Natural Gas Co.*⁵³ to provide Jersey Central with a hearing to
3 determine whether its rates were “just and reasonable” and, second, what the proper
4 scope of judicial review of such a determination was. The court held that, when a rate
5 is claimed to be beyond “just and reasonable” boundaries, FERC must carefully consider
6 the total impact of the rate—not only on consumers, but on investors as well—and that
7 the agency’s findings must be based on substantial evidence in the record.⁵⁴ A court
8 reviewing that decision must ensure that the end result of the commission’s order
9 “constitutes a reasonable balancing, based on factual findings, of the investor interest in
10 maintaining financial integrity and access to capital markets and the consumer interest
11 in being charged non-exploitative rates.”⁵⁵ Judge Starr concurred with both the result
12 and the reasoning of the majority’s opinion.

13 14 8. The Relevance of *Winstar* to the Regulatory Contract

15 Q. Do you agree with Mr. Bradford that the Supreme Court’s *Winstar* decision is not
16 relevant to the existence and enforceability of the regulatory contract?

17 A. No. I analyze *Winstar* at length in chapter 4 of *Deregulatory Takings and the Regulatory*
18 *Contract*, Exhibit JGS-1, at 171-76. For purposes of this proceeding, the most important
19 aspect of *Winstar* is that *seven* Justices—Breyer, Kennedy, O’Connor, Scalia, Souter,
20 Stevens, and Thomas—agreed that the government can be held responsible for the

21 53. 320 U.S. 591 (1944).

22 54. 810 F.2d at 1177-78.

23 55. *Id.* at 1178.

1 recovery of investments that private parties made in reliance on the government's
2 representations concerning its regulatory policies. Moreover, the opinions by those seven
3 Justices in *Winstar* cite as authority the Court's early cases construing the rights and
4 remedies of public utilities under their regulatory contracts with municipalities. *Winstar*
5 thus confirms the continued vitality of the reasoning in those early decisions.

6
7 **B. Deregulatory Takings and *Loretto***

8 **Q. Mr. Bradford notes that your reading of *Loretto* concerning physical invasions of**
9 **property has been rejected by various public utilities commissions and one state**
10 **court. Has your opinion of the relevance of *Loretto* to mandatory retail wheeling**
11 **changed since you submitted your direct testimony?**

12 **A. No. Neither Mr. Bradford nor the cases that he cites seriously discuss how the physical**
13 **invasion presented by mandatory wheeling of electricity over transmission lines and**
14 **distribution grids denies the owner of that property the constitutionally protected right**
15 **to exclude others. In late 1996 the Vermont Public Service Board rejected the argument**
16 **that mandatory retail wheeling would constitute a permanent physical invasion of**
17 **property that would be compensable under *Loretto*.⁵⁶ Rather than consider the physics**
18 **of physical invasion, the board purported to rely on precedent. But the two electricity**
19 **cases that the Vermont board cited, *Kansas City Power & Light Co. v. State Corporation***
20 ***Commission*,⁵⁷ and *Energy Association of New York State v. Public Service Commission***

21 56. Restructuring of the Electric Utility Industry in Vermont, Dkt. No. 5854, 174 P.U.R. 4th 409 (Vt. Pub.
22 Serv. Bd. Dec. 30, 1996).

23 57. 238 Kan. 842, 715 P.2d 19 (1986), *appeal dismissed*, 479 U.S. 801 (1986).

1 *of New York*,⁵⁸ also did not seriously discuss the physics of invasion. In short, all the
2 electricity cases that Mr. Bradford cites have dismissed the relevance of *Loretto* by
3 ignoring the essential physics of electrical networks that Mr. Gregory A. Cucchi
4 explained in his direct testimony in this proceeding. (PECO Statement No. 15, Direct
5 Testimony of Cucchi at 50, lines 4-14.).

6 In addition, Mr. Bradford neglects to discuss two important decisions that considered
7 *Loretto* relevant to mandatory network unbundling. In 1994 the U.S. Court of Appeals
8 for the District of Columbia Circuit overturned a Federal Communications Commission
9 rule—as exceeding the agency’s authority—that ordered unbundling of the local loop and
10 physical or virtual collocation of competitors’ transmission equipment on the premises
11 of the incumbent local exchange carrier.⁵⁹ Citing *Loretto*, the court noted that the
12 FCC’s order of physical collocation “directly implicates the Just Compensation Clause
13 of the Fifth Amendment, under which a ‘permanent physical occupation authorized by
14 government is a taking without regard to the public interests it may serve.’”⁶⁰ In 1995
15 the Oregon Supreme Court held that the state public utility commission violated the
16 Takings Clause of the U.S. Constitution when it ordered collocation on LEC premises
17 of enhanced service providers as part of the commission’s policy on open network
18 architecture.⁶¹

20 58. 169 Misc. 2d 924 (Sup. Ct., Albany County 1996).

21 59. *Bell Atlantic Tel. Cos. v. FCC*, 24 F.3d 1441 (D.C. Cir. 1994).

22 60. *Id.* at 1445 (quoting *Loretto*, 458 U.S. at 426).

23 61. *GTE Northwest Inc. v. Public Util. Comm’n of Ore.*, 321 Ore. 458, 900 P.2d 495 (1995), *cert. denied*,
24 116 S. Ct. 1541 (1996).

1 **1. Mr. Bradford's Prescription for Imposing**
2 **Unconstitutional Conditions on the Recovery of Stranded Costs**
3

4 **Q. In what sense does Mr. Bradford recommend that the Commission impose**
5 **unconstitutional conditions on PECO's recovery of stranded costs?**

6 A. Mr. Bradford concludes his testimony by stating: "The opportunity for recovery of a
7 substantial amount of stranded costs should be expressly conditioned on full utility
8 cooperation in achieving the best result for customers and the environment in the years
9 ahead." In *Dolan v. City of Tigard*, however, the Supreme Court held: "Under the
10 well-settled doctrine of 'unconstitutional conditions,' the government may not require
11 a person to give up a constitutional right—here the right to receive just compensation
12 when property is taken for a public use—in exchange for a discretionary benefit con-
13 ferred by the government where the property sought has little or no relationship to the
14 benefit."⁶² Similarly, recognizing the potential for unconstitutional conditions in
15 situations involving mandatory access, the Court in *Loretto* said that "a landlord's ability
16 to rent his property may not be conditioned on his forfeiting the right to compensation
17 for a physical occupation."⁶³ Contrary to Mr. Bradford's suggestion, therefore, the
18 Commission cannot make PECO's process of securing stranded cost recovery an exercise
19 in unconstitutional conditions. "The right of a property owner to exclude a stranger's
20 physical occupation of his land cannot be so easily manipulated."⁶⁴

21

22 62. 114 S. Ct. 2309, 2317 (1994) (citing *Perry v. Sindermann*, 408 U.S. 593 (1972); *Pickering v. Board of Ed.*
23 *of Township High School Dist.*, 391 U.S. 563, 568 (1968)).

24 63. 458 U.S. at 438 n.17.

25 64. *Id.*

2. The Relevance of *Northern Pacific Railway*

1
2 Q. How is *Northern Pacific Railway* relevant to the unconstitutional conditions that Mr.
3 Bradford would impose on PECO's recovery of stranded costs?

4 A. The Supreme Court's 1915 decision in *Northern Pacific Railway Co. v. North Dakota*
5 has great relevance to the mandatory unbundling of network access because it holds that
6 once a regulated utility has dedicated private property to a public purpose, the
7 government cannot appropriate that property for a different purpose.⁶⁵ In that case, the
8 North Dakota Supreme Court upheld a statute that forced railroad companies to carry
9 coal at a uncompensatory rate, reasoning that the rates were not confiscatory because the
10 companies overall continued to earn a reasonable return on their intrastate business.

11 The Supreme Court reversed, holding that the statute was an attempt to take a
12 carrier's property without due process of law in violation of the Fourteenth Amendment.
13 Although the state may reasonably regulate to ensure that a carrier fairly discharges the
14 obligations of its charter, that does not mean that state may redefine the public use to
15 which the carrier's property is dedicated, even if the carrier's total business continues
16 to earn a sufficient return:

17 The fact that the property is devoted to a public use on certain terms does not
18 justify the requirement that it shall be devoted to other public purposes, or to
19 the same use on other terms, or the imposition of restrictions that are not
20 reasonably concerned with the proper conduct of the business according to the
21 undertaking which the carrier has expressly or impliedly assumed. . . . The
22 public interest cannot be invoked as a justification for demands which pass the
23 limits of reasonable protection and seek to impose upon the carrier and its
24 property burdens that are not incident to its engagement. In such a case, it
25 would be no answer to say that the carrier obtains from its entire intrastate

1 business a return as to the sufficiency of which in the aggregate it is not entitled
2 to complain.⁶⁶

3
4 *Northern Pacific Railway* also established that the proposed redefinition is not made any
5 more constitutionally permissible by the fact that the state intends that redefinition to
6 serve an important public policy goal that materially benefits the state's residents:

7 [T]he State may [not] compel the carrier to maintain a rate upon a particular
8 commodity that is less than reasonable, or—as might equally well be assert-
9 ed—to carry gratuitously, in order to build up a local enterprise. That would be
10 to go outside the carrier's undertaking, and outside the field of reasonable
11 supervision of the conduct of its business, *and would be equivalent to an*
12 *appropriation of the property to public uses upon terms to which the carrier had*
13 *in no way agreed.*⁶⁷

14
15 Thus, the state may not act to alter fundamentally the obligations imposed on the carrier
16 by its acceptance of the original regulatory contract: “The constitutional guaranty
17 protects the carrier from arbitrary action and from the appropriation of its property to
18 public purposes outside the undertaking assumed”⁶⁸ As an example, Justice
19 Hughes stated that if the firm “has held itself out as a carrier of passengers only, it
20 cannot be compelled to carry freight.”⁶⁹ For the same reason, if the regulated firm has
21 held itself out as an integrated network providing service directly to customers, it cannot
22 be compelled to rededicate that network to providing service to other (unregulated) firms
23 that compete with the regulated firm for sales to retail customers, unless the government
24 pays just compensation for the losses that result from that regulatory change.

25 Thus, when investors built the first electricity networks even under nonexclusive

26 66. *Id.* at 595–96.

27 67. *Id.* at 598 (emphasis added).

28 68. *Id.* at 604.

29 69. *Id.* at 595–96.

1 franchises, it would not have occurred to them, or to the municipality franchising them,
2 that the municipality (or its successor, the state public utilities commission) might subse-
3 quently rededicate such regulated property to the purpose of providing a rival firm the
4 infrastructure with which to lure away the incumbent utility's retail customers. Indeed,
5 since the Supreme Court's decision in the *Express Package Cases* in 1885, it had been
6 clear under the common law of common carriage that a public utility could not be
7 required to sell interconnection to another carrier.⁷⁰ And early cases such as *Pacific*
8 *Telephone & Telegraph Co. v. Eshleman*, decided by the California Supreme Court in
9 1913, emphasized that a regulator could not mandate unbundled network access to
10 accommodate a competitor, and that a state legislature could do so *only if* it paid just
11 compensation to the incumbent utility.⁷¹

12 *Northern Pacific Railway* has relevance to current policies on network unbundling.
13 The incumbent utility now faces both an ongoing obligation to provide services to con-
14 sumers and a new obligation to supply network elements to competitors. The latter was
15 never contemplated when the incumbent dedicated the private property of its investors
16 to a public purpose, and it cannot be imposed absent the payment of just compensation.

17 Q. Does this conclude your testimony?

18 A. Yes.

19 70. 117 U.S. 1 (1885); see MICHAEL K. KELLOGG, JOHN THORNE & PETER W. HUBER, FEDERAL
20 TELECOMMUNICATIONS LAW 13-14 (Little, Brown & Co. 1992).

21 71. 166 Cal. 640, 664-65, 137 P. 1119, 1127-28 (1913).

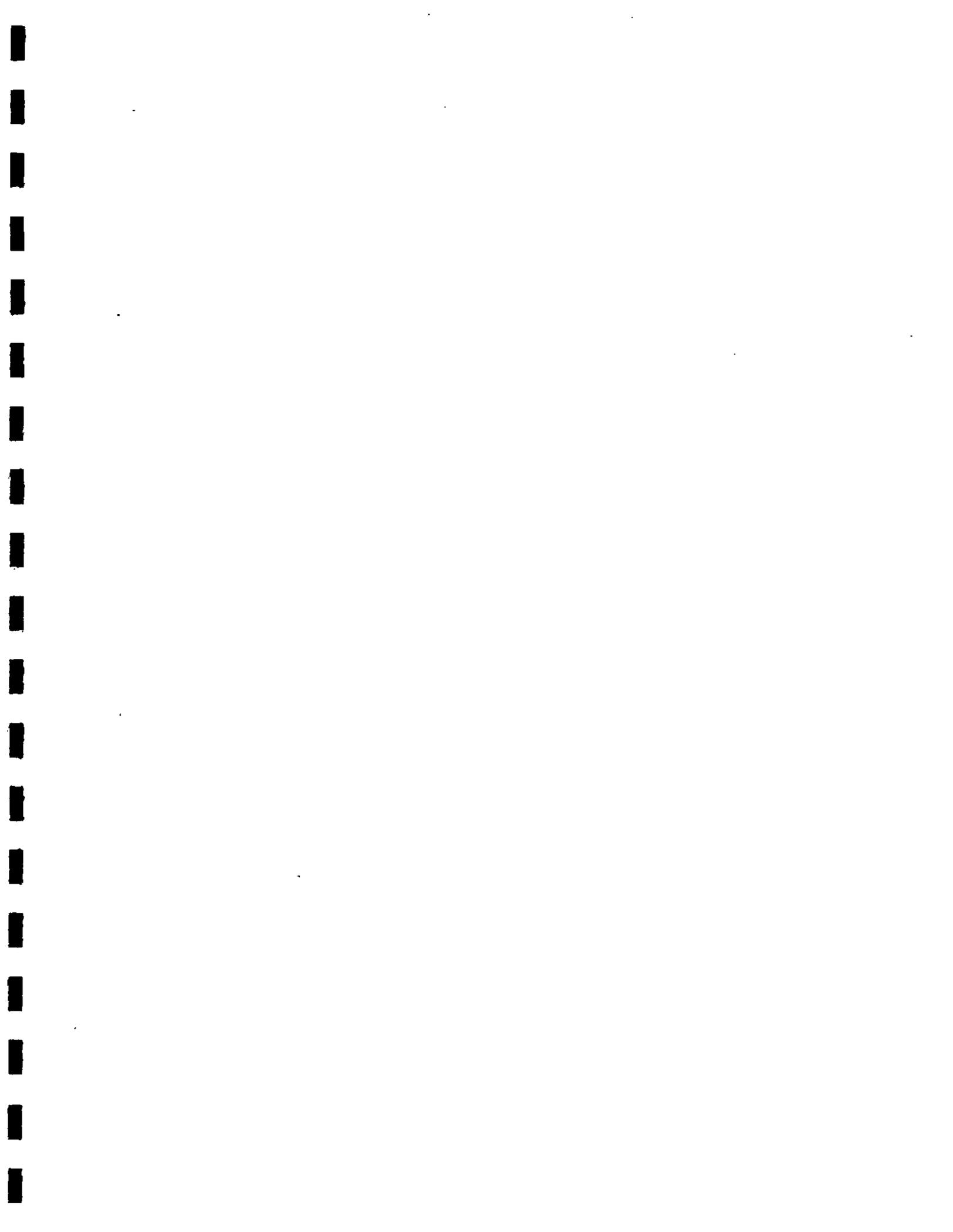


Exhibit JGS-1

Chapters 4, 6, and 15 from

*Deregulatory Takings and the Regulatory Contract:
The Competitive Transformation of Network Industries
in the United States*

by J. Gregory Sidak and Daniel F. Spulber

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The Regulatory Contract

STATE PUBLIC UTILITY regulation of electric power generation, transmission, and distribution and of local telephony represents a contract between the state and the regulated company. The economic functions of the regulatory contract, as well as the legal duties and remedies associated with it, are identical to those of a contract between private parties.

ECONOMIC FOUNDATIONS OF THE REGULATORY CONTRACT

Consumers and businesses voluntarily participate in a market transaction only if they receive *gains from trade*—that is, only if the transaction yields positive net benefits for them. A supplier will not invest in a transaction unless he expects the returns from the transaction to cover all economic costs, including a competitive return to invested capital. That principle is summarized in Armen A. Alchian's classic definition of cost: "In economics, the cost of an event is the highest-valued opportunity *necessarily* forsaken."¹ The supplier's costs of investing in the transaction include the highest net benefit of all opportunities forgone, known as *opportunity cost*.

1. Armen A. Alchian, *Cost*, in 3 *INTERNATIONAL ENCYCLOPEDIA OF THE SOCIAL SCIENCES* 404, 404 (David L. Sills ed., MacMillan Co. & Free Press 1968). We have added emphasis to the word *necessarily* at the request of Professor Alchian, who informed us in private correspondence that he intended the word to be italicized in the original.

*Cost Recovery for
Transaction-Specific Investment*

Cost recovery is an essential element of contract law. A contract must provide *consideration* to each of the parties, which implies that those incurring costs must expect to recover those costs, including a return to invested capital. Victor P. Goldberg, for example, has noted of contracts generally:

Suppose that one party has to make a considerable initial investment and that the value of the investment depends on the continuation of the relationship. An employee investing in firm-specific capital is one example; a second would be an electric utility building a plant to serve a particular area. Both will be reluctant to incur the high initial costs without some assurance of subsequent rewards. Other things equal, the firmer that assurance, the more attractive the investment. So, for example, if the utility customers agree to give it the exclusive right to serve them for twenty years, then the utility would find construction of a long-lived plant more attractive than if it did not have such assurance. Of course, if a new, superior technology were likely to appear within three years, the customers would not want the long-lived plant built. Nevertheless, there will be lots of instances in which the parties will find it efficacious to protect one party's reliance on the continuation of the relationship.²

Cost recovery is an essential aspect of utility regulation as well.³ Utilities would not have undertaken the extensive investments required to provide regulated service within their franchise region without the opportunity to recover their costs. In a manner similar to Goldberg's, one of us has specifically written about the public utility's recovery of transaction-specific investments under the regulatory contract:

The regulatory contract is often justified as a means of mitigating the risks of making large irreversible investments that are faced by regulated utilities. Customers of utilities gain from such commitments, since efficient levels of investment yield lower costs of service. There is an

2. Victor P. Goldberg, *Relational Exchange: Economics and Complex Contracts*, 23 AM. BEHAVIORAL SCIENTIST 337, 340 (1980), reprinted in READINGS IN CONTRACT LAW 16, 18 (Victor P. Goldberg ed., Cambridge University Press 1989); see also Victor P. Goldberg, *Regulation and Administered Contracts*, 7 BELL J. ECON. 426 (1976).

3. See JEAN-JACQUES LAFFONT & JEAN TIROLE, A THEORY OF INCENTIVES IN PROCUREMENT AND REGULATION 53-127 (MIT Press 1993).

incentive to honor commitments regarding compensatory rates of return to assure that regulated firms will undertake future investment and that they will maintain their existing capital equipment. In practice, honoring commitments to investors in regulated utilities keeps down future borrowing costs by reducing investor risk.⁴

The President's Council of Economic Advisers endorsed that economic reasoning in its 1996 report:

[T]here is an important difference between regulated and unregulated markets. Unregulated firms bear the risk of stranded costs but are entitled to high profits if things go unexpectedly well. In contrast, utilities have been limited to regulated rates, intended to yield no more than a fair return on their investments. If competition were unexpectedly allowed, utilities would be exposed to low returns without having had the chance to reap the full expected returns in good times, *thus denying them the return promised to induce the initial investment*. A strong case therefore can be made for allowing utilities to recover stranded costs where those costs arise from after-the-fact mistakes or changes in regulatory philosophy toward competition, as long as the investments were initially authorized by regulators.⁵

The same logic underlies the observation by the Supreme Court of Texas in 1994 that the state's public utility act

balances the important objective of protecting consumers from monopoly power with the need for financial stability which is required to attract the large amounts of investment capital essential to dependable utility service. When balancing the interests of consumers and utilities, the financial integrity of the utility weighs in favor of both sides. If the

4. DANIEL F. SPULBER, *REGULATION AND MARKETS* 610 (MIT Press 1989). For similar analyses in the tradition of Goldberg, see Paul L. Joskow & Richard Schmalensee, *Incentive Regulation for Electric Utilities*, 4 *YALE J. ON REG.* 1, 8-12 (1986); Dennis L. Weisman, *Default Capacity Tariffs: Smoothing the Transitional Regulatory Asymmetries in the Telecommunications Market*, 5 *YALE J. ON REG.* 149, 157-61 (1988); Glenn Blackmon & Richard Zeckhauser, *Fragile Commitments and the Regulatory Process*, 9 *YALE J. ON REG.* 73, 76-78 (1992).

5. 1996 ECONOMIC REPORT OF THE PRESIDENT 187 (Government Printing Office 1996) (emphasis added); see also 1997 ECONOMIC REPORT OF THE PRESIDENT 204-05, 207 (Government Printing Office 1997). In 1997 the Antitrust Division of the Department of Justice endorsed the proposition that "stranded costs . . . be assessed on a competitively neutral basis." Hearings before the House Comm. on the Judiciary, 105th Cong., 1st Sess. (June 4, 1997) (testimony of A. Douglas Melamed, Principal Deputy Assistant Attorney General, Antitrust Division, U.S. Department of Justice).

utility is forced to pay higher costs of capitalization, the increased costs will eventually be borne by the consumer.⁶

Cost-of-service regulation of public utilities is based on allowing a utility the opportunity to recover its investment, including a competitive rate of return.⁷ Utilities have had to undertake substantial investments to discharge their obligation to serve. The purpose of a regulatory contract is to provide for recovery of "economic costs," by which we mean the full cost of an activity, including direct expenditures, the time cost of money expended for capital investment, and any other opportunity costs. As mentioned earlier, an opportunity cost of an activity is the net benefit forgone from the best alternative activity. The time cost of money is an opportunity cost of an investment because it represents the highest return that the investor could have earned by investing the money elsewhere.

The expectation that a utility will be able to recover its costs applies as well to new expenditures that the utility makes to satisfy regulatory obligations, even if the industry is partially or fully deregulated. The utility cannot be asked to provide services in the competitive market at *regulated prices that are noncompensatory—that is, at prices that do not allow for full cost recovery*, particularly when the firm is mandated to offer unbundled services. Moreover, deregulation of the local telephone exchange, or mandatory unbundling of electricity generation and transmission, does not eliminate the responsibilities of regulatory authorities to allow the incumbent utility the reasonable opportunity to recover costs *already incurred* to satisfy the utility's obligation to serve. Regulators have a continuing responsibility to allow the utility the opportunity to recover those costs.

Opportunism and Asset Specificity

Oliver E. Williamson defines *opportunism* as "self-interest seeking with guile"⁸ and describes utility regulation as a "highly incomplete

6. *Texas v. Public Utility Comm'n of Tex.*, 883 S.W.2d 190, 202 (1994) (citations omitted).

7. Jean-Jacques Laffont and Jean Tirole observe, "In the absence of a detailed long-term contract, the regulated firm may refrain from investing in the fear that once the investment is in place, the regulator would pay only for variable cost and would not allow the firm to recoup its sunk cost." LAFFONT & TIROLE, *supra* note 3, at 54.

8. OLIVER E. WILLIAMSON, *MARKETS AND HIERARCHIES: ANALYSIS AND ANTI-TRUST IMPLICATIONS* 26 (Free Press 1975); OLIVER E. WILLIAMSON, *THE ECONOMIC INSTITUTIONS OF CAPITALISM: FIRMS, MARKETS, RELATIONAL CONTRACTING* 47 (Free

form of long-term contracting" in which the terms are adapted to "changing circumstances" to ensure the supplier of a fair rate of return.⁹ Simply auctioning franchises in the manner that Harold Demsetz proposed¹⁰ creates difficulties, Williamson argues, because parties to the franchise agreement could behave opportunistically and renege on their contractual promises. He emphasizes the possibility that cable television operators would bid low on the franchise and later raise prices to take advantage of the regulator's sunk costs of searching for a franchise operator.¹¹ Conversely, empirical evidence indicates that cities awarding cable franchises may take advantage of the cable operator's irreversible investment in transmission facilities.¹²

The problem of regulatory opportunism stems from the fact that regulatory assets, including expenditures for plant and equipment and capitalized outlays to perform duties mandated by regulators, are likely to be transaction-specific. That is, the assets have little value outside the regulatory transaction. Although they used different terminology, scholars on regulation have recognized the problem of asset specificity since the early part of the twentieth century. In 1934 John Bauer wrote of investment by public utilities: "Capital is largely embodied in fixed structures which are useless except for their special purposes."¹³ Many years later, Paul Milgrom and John Roberts defined an asset's degree of specificity to be "the fraction of [the asset's] value that would be lost if it were excluded from its major use."¹⁴ Applying the Milgrom-Roberts measure to Bauer's assessment of public utility investment would imply 100 percent asset specificity. Even if public utility investment were not quite so specific, it is easy to understand why Williamson has observed that "asset specificity is the big locomotive to which transaction cost economics owes much of its predictive content."¹⁵ He

Press 1985).

9. Oliver E. Williamson. *Franchise Bidding for Natural Monopolies—in General and with Respect to CATV*, 7 BELL J. ECON. 73, 91 (1976) [hereinafter *Franchise Bidding*].

10. Harold Demsetz. *Why Regulate Utilities?*, 11 J.L. & ECON. 55 (1968).

11. Williamson. *Franchise Bidding*, *supra* note 9, at 92.

12. See Mark A. Zupan, *Cable Franchise Renewals: Do Incumbent Firms Behave Opportunistically?*, 20 RAND J. ECON. 473 (1989).

13. John Bauer. *Public Utilities: United States and Canada*, in 12 ENCYCLOPAEDIA OF THE SOCIAL SCIENCES 677, 680 (Edwin R. A. Seligman & Alvin Johnson eds., Macmillan Co. 1934).

14. PAUL MILGROM & JOHN ROBERTS. *ECONOMICS, ORGANIZATION AND MANAGEMENT* 307 (Prentice Hall 1992).

15. WILLIAMSON. *THE ECONOMIC INSTITUTIONS OF CAPITALISM*, *supra* note 8, at 56.

notes that markets that are contestable are those without asset specificity, so that "contestability theory and transaction cost economics are looking at the same phenomenon—the condition of asset specificity—through the opposite ends of the telescope."¹⁶

Technological changes that affect the degree of asset specificity are facilitating the transition from regulation to competition being observed in markets traditionally served by public utilities. The regulatory contract that was suited to an industry with significant asset specificity is not suited to an industry in which asset specificity has declined considerably. The problem of incompatibility between the degree of asset specificity and the regulatory regime arises in the transition to competition: Incumbent utilities have not yet recovered the costs of their assets that are specific to a regulated market, and entrants meanwhile can invest in facilities that have considerably less asset specificity (wireless telecommunications, for example) or can provide service with minimal investment (resale of incumbent telecommunications services, for example).

It would breach the regulatory contract for the regulator to make unilateral changes in regulation that might prevent a utility from recovering the economic costs of investments that it made to discharge its regulatory obligations to serve. Contractual protections of the interests of the utility and its investors exist so that the state and private companies can continue to make agreements requiring investments in highly specialized capital. Analogously, Paul Joskow has studied the nature of the long-term contracts by which coal mines supply electric utilities with coal.¹⁷ He found that, because that contractual relationship entails durable transaction-specific investments by both parties, the supply contracts have detailed price-escalation clauses to reflect changes in the cost of supplying coal. Rather than set specific prices, the contracts establish the framework for determining how price adjustments should be made in the event that circumstances change in a way that the parties could not have foreseen when entering into the contract. Just as the institution of contract law reduces the cost of forming private agreements that entail transaction-specific investments, so agreements be-

16. *Id.* at 56 n.14.

17. Paul L. Joskow, *Vertical Integration and Long-Term Contracts: The Case of Coal-Burning Electric Generating Plants*, 1 J.L. ECON. & ORG. 33 (1980); Paul L. Joskow, *Contract Duration and Durable Transaction-Specific Investments: The Case of Coal*, 77 AM. ECON. REV. 168 (1987); Paul L. Joskow, *Asset Specificity and the Structure of Vertical Relationships: Empirical Evidence*, 4 J.L. ECON. & ORG. 95 (1988).

tween the state and private companies depend on analogous contractual protections to reduce and allocate the risk of cost recovery for specialized assets that cannot be salvaged if the contract is not performed.

As with private contracts, the regulatory contract is designed to address "holdup" problems. By incurring substantial capital expenditures to perform its obligation to serve, the utility is vulnerable to confiscation.¹⁸ In the absence of contract enforcement, the utility is at the mercy of the regulatory authority: By lowering rates to levels that do not allow a full recovery of costs, after the facilities have been created, a regulator could take advantage of the utility and its investors. A company supplying telecommunications or electricity services can raise or lower its posted prices without incurring more than the costs of communicating the new tariffs to customers. The regulated rates are thus much more flexible than are the utility's capital facilities in contrast since those are irreversible, market-specific investments. To the extent that they were tailored to meet regulatory obligations to serve, the utility's investments need not be fully recovered in a competitive market setting. That means that the regulatory contract is necessary to protect the regulated utility from regulatory "holdup."

The opening of the telecommunications or electricity markets to competition provides a temptation for regulators to behave in an opportunistic manner. The utilities have already constructed their network facilities. They will keep those facilities in operation as long as revenues cover their operating costs, even if revenues are not sufficient to allow even partial recovery of capital costs.

"Core" customers are those customers of the regulated utility who have limited opportunities to switch to competitive suppliers, while "noncore" customers are better able to seek alternatives. Noncore customers can take advantage of common carrier regulations by relying on the incumbent utility as a backup service or carrier of last resort. Typically, core customers are residential and small business customers, while noncore customers are large commercial and industrial customers. Core customers thus often bear a greater share of overhead costs when deregulation leads to selective entry and bypass of the incumbent utility. With continued regulation of the utility's core markets, some of

18. For a similar argument, see Timothy J. Brennan & James Boyd, *Political Economy and the Efficiency of Compensation for Takings*, Resources for the Future Discussion Paper 95-28, at 25 (June 1995) ("there is the possibility of regulatory moral hazard . . . when the government can act opportunistically to capture the benefits of private investment through changes in regulatory policy").

those costs would be shifted to remaining core customers while others would represent losses for utility investors. Thus, some putative benefits of competition are merely an income transfer from the utility's investors and core customers to noncore customers, rather than a gain due entirely to enhanced productivity. Some rate rebalancing is desirable to eliminate cross-subsidization from regulated rate structures. Deregulation should not, however, be used as a means to achieve gains for some customers by imposing losses on utility investors or core customers.

Credible Commitments

Economic theory widely recognizes that commitments made in bargaining situations influence the behavior of other actors only to the extent that the person making such commitments is credibly bound (by himself or others) to honoring them.¹⁹ The notion of enforceable agreements plays a similar role in regulated industries as it does in competitive markets. As Pablo T. Spiller and others have shown both theoretically and empirically, the level of investment in long-lived infrastructure undertaken by a regulated (or recently privatized) public utility depends critically on regulatory institutions' having been designed to ensure the credibility of the regulator's commitments that it will not act opportunistically once the utility has placed those nonsalvageable assets into service.²⁰ The President's Council of Economic Advisers has made the same argument concerning recovery of stranded costs:

[R]ecovery should be allowed for legitimate stranded costs. The equity reason for doing so is clear, but there is also a strong efficiency reason for honoring regulators' promises. Credible government is key to a successful market economy, because it is so important for encouraging long-term investments. Although policy reforms inevitably impose

19. See, e.g., MILGROM & ROBERTS, *supra* note 14, at 131; OLIVER E. WILLIAMSON, *THE MECHANISMS OF GOVERNANCE* 120-44 (Oxford University Press 1996); WILLIAMSON, *THE ECONOMIC INSTITUTIONS OF CAPITALISM*, *supra* note 8, at 167; THOMAS C. SCHELLING, *THE STRATEGY OF CONFLICT* (Oxford University Press 1960).

20. Pablo T. Spiller, *Institutions and Regulatory Commitment in Utilities' Privatizations*, 2 *INDUS. & CORP. CHANGE* 387 (1993); Brian Levy & Pablo T. Spiller, *The Institutional Foundations of Regulatory Commitment: A Comparative Analysis of Five Country Studies of Telecommunications Regulation*, 10 *J.L. ECON. & ORG.* 201 (1994); Shane Greenstein, Susan McMaster & Pablo T. Spiller, *The Effect of Incentive Regulation on Infrastructure Modernization: Local Exchange Companies' Deployment of Digital Technology*, 4 *J. ECON. & MGMT. STRATEGY* 187 (1995).

losses on some holders of existing assets, good policy tries to mitigate such losses for investments made based on earlier rules.²¹

The utility's investors would not be willing to commit vast amounts of capital to carry out an obligation to serve unless the regulator's offer of an opportunity to earn a fair rate of return were credible. Regulated utilities relied upon those contractual assurances in planning and carrying out their investment and service plans. Conversely, the regulator would not be willing to provide a franchise protected by entry regulation and to authorize the utility's pricing and investment plans unless the utility's promises to provide services were credible. The legal and public policy context in which the regulatory process operates provides guarantees to the parties to the regulatory contract.

As with private contracts, the regulatory contract must involve consideration, for the agreement is voluntary. The first utilities did not spring into existence as a result of some government conscription of private capital. The regulated utility submits to various regulatory restrictions including price regulations, quality-of-service requirements, and common carrier regulations. In return, the regulated firm receives a protected franchise in its service territory, and its investors are allowed an opportunity to earn revenues subject to a rate-of-return constraint. Without the expectation of earning a competitive rate of return, investors would not be willing to commit funds for establishing and operating the utility. The funds are committed to provide services to the customers of the regulated utility. Once the utility invests those funds, the long depreciation schedules typical in electricity and telecommunications regulation credibly commit the utility to performing its obligations under the regulatory contract by denying it the opportunity to recover its capital before the end of its useful life.

Relational Contracting

A question sometimes asked of expert witnesses in regulatory proceedings is, "Where, Professor X, is this regulatory contract to which your testimony refers?" That question is akin to asking an Englishman to produce a copy of his constitution. The regulatory contract is a bundle of public utility statutes, utility commission precedents, adjudicatory decisions, rulemakings, hearings on the record, formal notices of pro-

21. 1996 ECONOMIC REPORT OF THE PRESIDENT 187 (Government Printing Office 1996).

posed rulemaking, and public commentary. Such reasoning is neither novel nor inherently economic, for it is the same logic that propels the Supreme Court's analysis of state legislation that has given rise to a contractual obligation:

In general, a statute is itself treated as a contract when the language and circumstances evince a legislative intent to create private rights of a contractual nature enforceable against the State. In addition, statutes governing the interpretation and enforcement of contracts may be regarded as forming part of the obligation of contracts made under their aegis.²²

Although the original franchise agreement between the public utility and a municipality is usually the critical first document in the bundle of agreements concerning the relationship between the state and the utility, no single document is likely to encapsulate the entire regulatory contract. The relational contract between the utility and the regulated firm is analogous to a corporation, which is an easily identified entity but consists of multiple contracts that define the firm. The corporation is often said to be a "nexus of contracts" between the firm and its investors, employees, suppliers, and customers.²³ Although there may be articles of incorporation, a single document cannot unify the contracts that compose the firm.

Victor P. Goldberg provides an important early characterization of the regulatory contract. He observes that private contracts involve both a *continuing relationship* that uses "rough formulae or mutual agreement to adjust the contract to current situations" and *agency*, which occurs when a firm deals with many customers who "find it desirable to act collectively through an agent both to negotiate the terms and to administer the contract over time."²⁴ Goldberg asserts that "[r]egulation can be viewed as an implicit administered contract in which both elements are significant."²⁵

22. *United States Trust Co. v. New Jersey*, 431 U.S. 1, 17 n.14 (1977).

23. E.g., FRANK H. EASTERBROOK & DANIEL R. FISCHEL, *THE ECONOMIC STRUCTURE OF CORPORATE LAW* 8-12 (Harvard University Press 1991); ROBERTA ROMANO, *THE GENIUS OF AMERICAN CORPORATE LAW* (AEI Press 1993).

24. Goldberg, *Regulation and Administered Contracts*, *supra* note 2, at 428, 429.

25. *Id.* at 427. For a survey of the subsequent literature building on Goldberg's analysis, see Keith J. Crocker & Scott E. Masten, *Regulation and Administered Contracts Revisited: Lessons from Transaction-Cost Economics for Public Utility Regulation*, 9 *J. REG. ECON.* 5 (1996). One indicator of the degree to which Goldberg and Williamson revolutionized scholarship on public utility regulation is that, of the various rationales

Even if there were no explicit documentation of the relationship between the regulator and the firm, the regulatory contract would still represent an unambiguous meeting of the minds. All the arguments concerning the economic function of the legal requirements of a contract between private parties apply with equal, if not greater, force to the regulatory contract between the state (or federal regulator) and the regulated firm. Thus, the state (or federal regulator) cannot credibly assert that it owes no remedy to the incumbent when it breaches the regulatory contract while adopting policies that promote competitive entry.

As with private contracts, the regulatory contract has both express and implied provisions. The franchise award, orders approving rates, and orders approving capital expenditures are clearly formal written agreements. Including capital expenditures in the regulated rate base is certainly a formal contractual agreement. The regulatory contract also has implied features. The utility undertakes capital expenditures of some extended economic lifetime in anticipation of cost recovery. Regulatory approval of such capital expenditures implies that there will not be fundamental changes in the regulator's approach to the company's market environment during the economic lifetime of those investments without addressing the issue of compensating investors.

Transactions usually do not involve simultaneous performance, as with a simple exchange. Contracts are necessary to address the problems that may arise with the passage of time. Generally, there is a delay between the time the contract is entered into and the time that performance is completed. In the interim, foreseen and unforeseen changes in the circumstances of the parties may arise. The contract is designed to adjust the terms of the transaction to handle contingencies.

Just as vertical integration is a transaction-cost-reducing substitute for complete contingent-claim contracting, so also is the administrative process surrounding the regulatory contract. The implicit terms, fleshed out by the administrative process, are as important as the explicit ones, especially given the contract's duration. The regulatory contract can therefore be left as improvisational and relational, like the loose weave of the Delaware Corporate Code or Article II of the Con-

that Richard A. Posner considered and rejected for distinguishing public utilities from unregulated companies in his classic 1969 disquisition on the regulation of natural monopoly, none concerned the problem of inducing private investment in nonsalvageable assets subject to regulatory opportunism. Richard A. Posner, *Natural Monopoly and Its Regulation*, 21 STAN. L. REV. 548, 615 n.132 (1969).

stitution.²⁶ It is more efficient for the parties to eschew specificity in their enumeration of rights and duties under the regulatory contract in innumerable contingent situations over the long life of the useful assets employed and to rely instead on an alternative mechanism for ensuring that neither party will act opportunistically with respect to the other: such mechanisms include vertical integration and credible commitments, including administrative procedures enforced by an independent judiciary.²⁷ An absence of contract specificity, however, is not the same as the public utility's ceding unconditional discretionary powers to the regulator.

The regulatory process itself is a formal proceeding, whether it transpires at the federal or state level. Parties present testimony and evidence in formal public proceedings for the record. The agency gives formal notice of proposed rulemakings and considers the comments of interested parties. That process establishes the regulatory bargain and serves not only to make the process transparent, but also to assure the participants that their interests are protected, just as contract rights and remedies protect the parties to private contracts. The formal proceedings make a public record that helps to protect the legal and economic interests of consumers and the firm's investors.

Regulatory hearings, particularly for rate setting, provide a forum in which market participants can interact directly with each other and the regulatory commission. The hearings serve an important economic purpose. Just as the terms of private contracts result from negotiations between the parties, so the regulatory process involves *bargaining* among the regulatory authority, the regulated firm, its customers, and other interested market participants.²⁸ The bargaining process encompasses cost measurement, cost allocation, quality of service, and allowed rate of return. Negotiation results in rates and investment plans for the utility to provide service within its service area.

Bargaining between consumers and firms under the auspices of the regulatory agency does not necessarily indicate that the regulatory commission acts in the public interest, by maximizing social welfare, simply to carry out its public duties. Regulatory commissioners may

26. See J. Gregory Sidak, *The President's Power of the Purse*, 1989 DUKE L.J. 1162, 1235-38.

27. WILLIAMSON, THE ECONOMIC INSTITUTIONS OF CAPITALISM, *supra* note 8, at 69; Oliver E. Williamson, *Transaction-Cost Economics: The Governance of Contractual Relations*, 22 J.L. & ECON. 233, 236 (1985).

28. SPULBER, *supra* note 4, at 85-86, 269-71.

pursue entirely private objectives, including personal notions of fairness, the quest for power and self-aggrandizement, or merely avoidance of criticism. Furthermore, regulatory commissions are subject to capture by one industry interest or another or by one consumer interest or another, depending on whether the bargaining power of any particular interest group dominates that of other groups. The regulated outcome often is a compromise when interest groups have countervailing bargaining power. Bargaining power in the regulated setting results from direct influence of the parties over the bureaucrats serving on the regulatory commissions as well as indirect influence. Generally, interested parties obtain bargaining power through the exercise of indirect influence over regulatory commissions. Indirect influence stems from legislative, executive, and judicial oversight of commission activities. Interest groups may apply to the legislature for special hearings or legislation that limits commissioner discretion. They may appeal to the executive branch for political pressure or appointment of new commissioners. Finally, interested parties may appeal commission actions to the courts, seeking to remand or reverse unfavorable decisions.

THE PRINCIPAL COMPONENTS OF THE REGULATORY CONTRACT

The three components of the regulatory contract are entry controls, rate regulation, and utility service obligations. The state commission controls the entry of the utility's competitors and authorizes rates that give the utility's investors the opportunity to earn a "fair" rate of return on their investment. In return, the regulated utility must comply with regulatory accounting procedures for the disclosure of its costs, abide by price regulations, limit its business activities in other markets, invest in sufficient transmission and access services to all customers within its service territory who request service, operate efficiently as determined by the regulatory commission, make only investments that are "prudent," meet regulatory standards for quality of service, and comply with a host of other provisions.

The broad terms of the regulatory contract are governed by the regulatory authority's preceding decisions, legislation, and judicial oversight. Regulated rates are set through public rate hearings that generally follow rules of administrative procedure. Interested parties must be informed of the time, place, and nature of the hearings, the

legal authority and jurisdiction upon which the hearing is to be held, and the matters of fact and law that are asserted.²⁹

The regulatory authority approves the utility's investment projects through prudency reviews and used-and-useful hearings.³⁰ The regulators approve the prices charged by the regulated utility and review its financial performance. Thus, the regulatory contract is between the utility and the regulatory commission, as the agent of the legislature, which in turn represents the general public. It is not necessary to believe that the commission acts in the public interest to conclude that the commission undertakes obligations as the public's representative. The actions of regulatory commission are government commitments that potentially obligate public funds.

Entry Regulation

Regulations limiting the entry of competitors into the service territory of the incumbent utility are a standard feature of the regulatory contract. Regulatory commissions control entry through the awarding of franchises and the requirement of a certificate of public convenience and necessity. Regulators have restricted entry into telecommunications, the electric power industry, natural gas, water services, hospitals, broadcasting, and many other industries.

The Rationale for Entry Controls. Entry controls have traditionally limited competition for the utilities and allowed them the opportunity to earn a fair rate of return on their investments while conforming to rate regulation and regulatory service obligations. The elimination of regulatory entry barriers to achieve the benefits of competition represents a fundamental change in the terms of the regulatory contract. To avoid confiscatory outcomes, those changes need to be counterbalanced by altering both the responsibilities and compensation for the incumbent utilities.

The traditional justification for entry restrictions in telecommunications has been to achieve the cost gains from *natural monopoly*. For example, in 1982 then-Judge Stephen Breyer wrote that "local telephone service seems to be generally accepted as a natural monopoly."³¹

29. See, e.g., CAL. PUB. UTIL. CODE § 311 (hearings, evidence, and decisions).

30. See SPULBER, *supra* note 4, at 269-71.

31. See STEPHEN G. BREYER, REGULATION AND ITS REFORM 291 (Harvard University Press 1982).

A technology is said to exhibit the property of natural monopoly if one firm can produce the product or service at lower cost than can two or more firms.³² A sufficient condition for the cost function to have the natural monopoly property is for the technology to exhibit economies of scale over the relevant range of output. Economies of scale are said to be present if the marginal costs of production are less than the average costs of production over the relevant range of output.³³

Technological change and industry transformations in telecommunications and other markets have cast doubt on the natural monopoly argument for regulation.³⁴ Furthermore, competition brings cost efficiencies and incentives for innovation that cannot be achieved through entry and rate regulation. Those benefits are manifest in the markets that experienced the first deregulation wave—airlines, trucking, and rail freight transportation. Moreover, the high transaction costs associated with cost-of-service regulation lead many to question whether any potential cost gains can possibly justify continuing to regulate entry.

Accordingly, state PUCs have begun to dismantle regulatory barriers to entry into the local exchange and into the retail distribution of electricity. The elimination of franchise protection by the state PUCs is a unilateral change of a fundamental term in the regulatory contract. Although cost efficiencies may no longer justify continuing entry regulations, that changed circumstance does not eliminate the regulator's responsibility to allow utilities to recover their costs incurred before the change in the regulatory contract.

Exclusive versus Nonexclusive Franchises. A common misunderstanding of the regulatory contract is that an essential component of that agreement is the government's grant of a monopoly to the investor-owned utility. The grant may take the form of an exclusive franchise

32. See, e.g., WILLIAM J. BAUMOL, JOHN C. PANZAR & ROBERT D. WILLIG, *CONTESTABLE MARKETS AND THE THEORY OF INDUSTRY STRUCTURE* 17 (Harcourt Brace Jovanovich, rev. ed. 1988) (defining natural monopoly in terms of an industry in which all firms have the same cost function).

33. The firm's average cost function refers to the cost per unit of output evaluated at each output level. The firm's marginal cost function refers to the additional cost of producing one more unit of output, evaluated at each level of output. Economies of scale are not necessary for natural monopoly. The natural monopoly property can be present at an output level at which the cost function exhibits decreasing returns to scale. See SPULBER, *supra* note 4, at 117.

34. See Daniel F. Spulber, *Deregulating Telecommunications*, 12 *YALE J. ON REG.* 25 (1995).

or a statutory prohibition on competitive entry. To the contrary, the regulatory contract does *not* require monopoly, and the misapprehension that it does, in turn, supplies the erroneous premise for two misplaced arguments. The first is the assertion that those who defend the regulatory contract are necessarily opposed to competition and unconditionally maintain that, by itself, the government's introduction of competition into the market in question would constitute breach of the regulatory contract. The second misplaced argument is the assertion that one can disprove the existence of the regulatory contract in a given state by pointing to the existence there of a statute or state constitutional provision that forbids the state or any of its municipalities from granting an exclusive franchise. Neither of those two arguments is correct.

Suppose that a state not only forbade exclusive franchises but also failed to create—by statute, common law, or regulatory practice of long standing—any alternative cost recovery mechanism that credibly assured the utility that the regulator would provide the utility the opportunity to recover its irreversible, nonsalvageable investments. In that institutional setting, a private company would be reluctant to contract with municipalities for the long-term supply of any amount of service that would necessitate any incremental investment in nonsalvageable assets; and even if the company *were* willing enter into such a contract, investors would be unwilling to supply the company with the requisite capital unless they were paid a risk premium substantial enough to compensate for the risk that the firm might never recover the capital used to make those investments in nonsalvageable assets and that the firm might never receive a competitive return on that capital. Investors routinely demand that sort of risk premium from irreversible investments in third-world countries that suffer from political instability and correspondingly unreliable judicial and regulatory institutions for the protection of private property. Most important, consumers suffer under such circumstances because they ultimately pay the risk premium that is necessary to attract the investment required for the utility to render service and because they will bear the disruption in service if regulatory instability induces the public utility to disinvest.

Clearly, therefore, the existence of a statute or state constitutional provision that forbids the state or any of its municipalities from granting an exclusive franchise does not disprove the existence of the regulatory contract in that state. It is a factual matter beyond any dispute that some states, such as Texas, forbid the grant of an exclusive fran-

chise.³⁵ The existence of such a prohibition, however, is hardly evidence that the state does not have a regulatory contract. All that such a fact proves is that the state has selected a different means by which to achieve the ends for which franchise exclusivity is the chosen means in other states. The common objective in the two cases is to create the opportunity for the utility to recover the prudently incurred costs of irreversible, nonsalvageable investments that it made to discharge its obligation to serve customers within its service area. For example, a municipality or state, while not granting exclusivity to the incumbent utility, may nonetheless refrain from taking actions that would threaten the firm's recovery of nonsalvageable investments. In the absence of rate rebalancing, the most obvious way for the municipality or state to preserve a reasonable opportunity for the incumbent utility to recover its costs would be to permit entry only by firms that will either assume public service obligations comparable to the incumbent's or contribute their appropriate share to the funding of such obligations. That limitation on the discretion of the licensing authority may include the statutory directive to the public utilities commission not to grant an overlapping certificate of public necessity without good cause. In Texas, for example, the Public Utility Regulatory Act of 1995 provides that the Public Utilities Commission of Texas shall grant a certificate of convenience and necessity after considering not only "the adequacy of existing service" and "the need for additional service," but also the effect of the grant on a number of factors, including its effect "on any public utility of the same kind already serving the proximate area."³⁶

Further, the government's introduction of competition into the regulated market in itself would not breach the regulatory contract. Entry regulation is simply a means to an end; it is not the end in itself. The appropriate objective—the objective that advances economic efficiency and consumer welfare—is for the regulator to provide a credible mechanism by which the utility will have the opportunity to recover the costs of (and a competitive return *on*) its irreversible, nonsalvageable investments over the course of their useful lives. If a state in the past has chosen franchise exclusivity as the mechanism to achieve that objective but now wants to reverse course and allow open entry, then it must simultaneously introduce an alternative policy that is equally

35. TEX. CONST. art. I, § 26. For a 1913 survey of the limitations on the grant of exclusive franchises, see OSCAR L. POND, A TREATISE ON THE LAW OF PUBLIC UTILITIES OPERATING IN CITIES AND TOWNS §§ 117-31, 156-71 (Bobbs-Merrill Co. 1913).

36. TEX. REV. CIV. STAT. ANN., art. 1446c-0, § 2.255(c).

efficacious in creating the opportunity for achieving that cost-recovery objective. In short, a breach of the regulatory contract does *not* necessarily occur when the state abolishes entry regulation; but a breach *does* necessarily occur when the state abolishes entry regulation without simultaneously imposing an alternative policy that will achieve the same cost-recovery objective for which entry regulation was originally intended.

Regulation of Rates

The regulation of rates by federal agencies and state PUCs is another standard feature of the regulatory contract. Rate regulation to control monopoly power generally accompanies entry restrictions that were put in place to protect natural monopoly. Control over rates also places responsibilities on regulators. The need to raise capital repeatedly, and constitutional protections against takings under the Fifth and Fourteenth Amendments, require regulators to take into account the interests of investors.

Economists have advanced many justifications for rate regulation.³⁷ In addition to controlling monopoly power, rate regulation often is perceived as a means of achieving universal service and maintaining reasonable rates for consumers and industry. Federal agencies and state PUCs have followed a standard procedure in cost-of-service ratemaking. The utility estimates its operating costs including depreciation for a selected year, known as a "test year." The estimate reflects expectations about demand and operating costs. In addition, the utility calculates its capital costs, which generally are estimated by using the book value of capital expenditures net of depreciation. The regulatory commission sets an "allowed rate of return" for the company's financial costs. Methods of determining the rate of return vary, but in many cases the PUC averages the costs of the utility's debt with an estimate of the costs of capital for equity owners. Following regulatory accounting rules, the regulatory commission calculates the total costs of the utility as its operating cost, plus the rate base times the allowed rate of return. That estimate of costs is the utility's "revenue requirement." On the

37. For further discussion, see ALFRED E. KAHN, *THE ECONOMICS OF REGULATION: PRINCIPLES AND INSTITUTIONS* (MIT Press, rev. ed. 1988) (John Wiley & Sons, Inc. 1970); BREYER, *supra* note 31; RICHARD SCHMALENSSEE, *THE CONTROL OF NATURAL MONOPOLIES* (Lexington Books 1979); SPULBER, *supra* note 4.

basis of the revenue requirement, the utility proposes rates to the regulator that are designed to recover estimated costs.

It should be evident that the regulatory commission cannot unilaterally terminate its obligation to the utility. Deregulation does not absolve the regulators of their responsibility to permit regulated companies to earn competitive rates of return on their investments. Rates can be expected to fall under competition, while regulators continue to impose performance requirements on the utilities. The "end-result" test, which we examine in chapter 6, should be applied to the effects of competitive rules so that investors are permitted to earn a competitive return on capital investment under regulation.

The Obligation to Serve

As a general rule in antitrust law, a firm may unilaterally refuse to deal with any prospective customer.³⁸ That rule even extends to a monopolist's unilateral refusal to deal, so long as the firm by doing so does not intend to create or maintain a monopoly.³⁹ That rule does not apply to utilities, however. As Justice Benjamin N. Cardozo observed in 1920, "the duty to serve . . . results from the acceptance of the franchise of a public service corporation."⁴⁰

A utility carries an obligation to serve customers in its franchise region at posted prices. That duty to serve requires the company to expand its transmission and switching capacity to meet the growth and location of customer demand. Utilities have constructed facilities to provide reliable telephone, electricity, or natural gas service. Regulators monitor the performance of regulated utilities in a variety of other areas, including responsive customer relations, speed of repairs, or other services. The cost of capacity investments is recovered through their inclusion in the rate base. The utility earns the allowed rate of return on its capital expenditures net of depreciation. The utility recovers the cost of assets through depreciation allowances that are treated as operating costs.

38. *United States v. Colgate & Co.*, 250 U.S. 300, 307 (1919).

39. *Id.* at 307.

40. *Tismer v. New York Edison Co.*, 228 N.Y. 156, 161, 126 N.E. 729, 731 (1920) (citing *People ex rel. Cayuga Power Corp. v. Public Serv. Comm'n.*, 226 N.Y. 527, 532, 124 N.E. 105, 106 (1919) (Cardozo, J.)); *see also* IRSTON R. BARNES, *THE ECONOMICS OF PUBLIC UTILITY REGULATION* 42, 740-42 (F. S. Crofts & Co. 1942).

The regulatory contract requires performance from utilities that has necessitated substantial capital expenditures, which were made subject to regulatory approval and oversight. If the regulator unilaterally changes the regulatory contract, a complete review of the utility's performance obligations becomes necessary.

The Obligation to Extend the Network to Provide Service to All Consumers. The public utility's obligation to serve entails the obligation to extend its network to serve new customers. Why must a utility be forced to make additional sales? The answer, in general terms, is that the private marginal benefit of extending service is less than the private marginal cost. Left to its own devices, the utility would build a network reaching a lower percentage of the populace than regulators would desire. For a fixed, geographically averaged price, the utility would stop expanding its network when the private marginal cost of doing so began to exceed the private marginal benefit. Regulators would prefer to have the network expanded to the point where social marginal cost equals social marginal benefit.⁴¹ Alternatively, the utility would depart from pricing its services at a fixed price and, instead, charge higher prices to customers in high-cost areas. Thus, the need to impose on the utility an obligation to extend its network is the direct implication of policies of universal service and rate averaging.

Early in the experience of public utility regulation, the Supreme Court recognized that interrelationship. When confronted with a utility's constitutional challenge to the obligation to extend its network, the Court announced a rule that coincides precisely with the test that economists decades later would articulate for defining the existence of subsidized prices.

In 1917 the Court decided *New York ex rel. New York & Queens Gas Co. v. McCall*, a case in which the New York Public Service Commission ordered a gas utility having an exclusive franchise to extend its gas mains and service pipes to the community of Douglaston, "located about a mile and a half beyond the then terminus of the company's gas mains, but within the Third Ward of the Borough

41. For a theoretical exposition of that proposition by a former state regulatory commissioner, see ELI NOAM, *Network Tipping: The Rise and Fall of the Public Network Monopoly*, in TELECOMMUNICATIONS IN EUROPE 26 (Oxford University Press 1992). We return to the issue of network externality in chapter 16. For early skepticism of that phenomenon that predates the recent literature by economic theorists, see JAMES C. BONBRIGHT, *PRINCIPLES OF PUBLIC UTILITY RATES* 17 n.16 (Columbia University Press 1961).

of Queens."⁴² From the Court's description, Douglaston would have been a desirable market to serve—affluent and rapidly growing.⁴³ The utility's reluctance to extend service stemmed from the fact that "the mains of the company, which extended to the point nearest to Douglaston, were being used to almost their full capacity, and for this reason the estimated cost of making the improvement included new mains of some eight miles in length."⁴⁴ The utility estimated that its return on investment for the extension would be only 2¼ percent, which (although not expressly stated in the opinion) was presumably below the cost of capital. Although the utility attacked the order as a deprivation of due process, it did not claim "that the comparatively small loss . . . would render its business as a whole unprofitable," and it did not explicitly allege a taking of property.⁴⁵ The Court, in a unanimous opinion by Justice John H. Clarke, rejected the utility's due process argument and affirmed the order to extend the line:

Corporations which devote their property to a public use may not pick and choose, serving only the portions of the territory covered by their franchises which it is presently profitable for them to serve and restricting the development of the remaining portions by leaving their inhabitants in discomfort without the service which they alone can render. To correct this disposition to serve where it is profitable and to neglect where it is not, is one of the important purposes for which these administrative commissions, with large powers, were called into existence. . . .⁴⁶

McCall thus establishes the following rule: If a public utility with entry regulation and uniform rate structure is meeting or exceeding its reve-

42. 245 U.S. 345, 346 (1917).

43. "The community of Douglaston . . . was a rapidly growing settlement of three hundred and thirty houses, of an average cost of \$7,500, thus giving assurance that the occupiers of them would be probable users of gas, and which, with very few exceptions, were occupied by families the entire year. While the community is described in the assignment of error as 'independent and remote,' the record shows that it was served at the time by franchise-holding companies, which supplied water, electric light, and telephone to its inhabitants, and that the number of houses had doubled within a few years." *Id.* at 349.

44. *Id.* at 349-50.

45. *Id.* at 351.

46. *Id.* See also RICHARD J. PIERCE, JR., *ECONOMIC REGULATION: CASES AND MATERIALS* 169-70 (Anderson Publishing Co. 1994).

nue requirement, then it cannot refuse a request to extend its network to serve a new customer below incremental cost.

That proposition can be restated in a manner more familiar to contemporary economic analysis of network industries. A utility would not voluntarily extend its network to a given customer i if doing so would generate an incremental loss for the utility—that is, if

$$R_i < IC_i,$$

where R_i is the utility's revenue from customer i and IC_i is the utility's incremental cost of serving customer i . Under the regulatory contract, however, the utility can be excused from its duty to extend service even at a loss if and only if the utility as a whole is unprofitable—that is, if its total revenues TR are less than its total costs TC :

$$TR \equiv \sum_{j=1}^n R_j < TC.$$

It follows that, if the utility is precisely meeting a break-even constraint on its overall operations,

$$TR \equiv \sum_{j=1}^n R_j = TC,$$

as is the stylized objective of rate-of-return regulation. If the utility is required by the *McCall* rule to extend service unprofitably to customer i , then there must be at least one other customer k from whom the utility earns revenues exceeding incremental costs:

$$R_k > IC_k.$$

Economies of scope imply that the sum of incremental cost across the services that the company provides is less than total costs. The sum of incremental costs can equal total cost if the services are independent. Note that in the absence of economies of scope, it is inefficient to operate the services jointly. Even if each service covers its incremental cost, therefore, one or more services must cover joint and common costs as well. If, in addition, a service does not cover all of its incremental costs, then other services must also carry them.

The *McCall* rule thus guarantees the existence of a cross-subsidy in the utility's rate structure. A regulated firm's rate structure is said to be free of cross-subsidies if and only if the prices satisfy the *incremen-*

*tal cost test.*⁴⁷ Applying the incremental cost test, revenues generated by each service cover the incremental cost of providing that service.⁴⁸ The rationale for the incremental cost test is the requirement that each service must generate revenues that at least cover the additional cost of producing that service. If not, the other service is providing a cross-subsidy, and the customers of the other service would be better off receiving their service independently, at its stand-alone cost.

If a firm is regulated, it is desirable to design a rate structure that is free of cross-subsidies. Otherwise, the economic incentives can lead to allocative inefficiency. Customers receiving the subsidy do not observe the full economic costs of their service and consequently demand an inefficiently high amount; customers providing the subsidy demand an inefficiently low amount or seek bypass alternatives that may be uneconomic under some conditions. As explained earlier, however, regulators almost invariably require the public utility to conform to a rate structure that is rife with cross-subsidies.

As we shall see shortly, the prohibition against a public utility's exiting its franchise area is another instance in which the regulatory contract compels the utility to deviate from subsidy-free prices so that the state can continue to effect income transfers through the utility's rate structure.

Service Quality. Regulators require a public utility to maintain specified levels of service quality. Quality of service is a fundamental part

47. See WILLIAM J. BAUMOL & J. GREGORY SIDAK, TOWARD COMPETITION IN LOCAL TELEPHONY 57, 81-83 (MIT Press & AEI Press 1994); WILLIAM J. BAUMOL, SUPERFAIRNESS: APPLICATIONS AND THEORY 113-20 (MIT Press 1986). Alternatively, a break-even regulated rate structure is said to be free of cross-subsidies if and only if the prices satisfy the *stand-alone cost test*. See, e.g., BAUMOL & SIDAK, TOWARD COMPETITION IN LOCAL TELEPHONY, *supra*, at 84; BAUMOL, PANZAR & WILLIG, *supra* note 32, at 352-53. Stand-alone cost refers to the firm's long-run total cost of each service operated separately. The stand-alone cost test requires that the revenues generated from either of two services not exceed the stand-alone cost of providing that service. If the revenues from one service do exceed its stand-alone cost, then that service is providing a cross-subsidy to the other service. (The definition of the stand-alone cost test is given in terms of two services. In the case of more than two services, the test requires that no group of services subsidize any other group of services.) The test for cross-subsidization demonstrates that the customers of the service providing the cross-subsidy would be better off if that service could be obtained independently of the other service.

48. Here, we define the incremental cost test for only two services. In the case of more than two services, the revenues generated by each group of services must cover the incremental cost of providing that group of services.

of the universal service requirement. Regulated utilities must maintain sufficient capacity not only to provide service to all customers who request it, but also to meet the peak demands of its customers. With variability of demand, the firm needs to carry the cost of substantial capital investment that can remain idle off-peak. The effect of service quality regulation is that the type of capital equipment that the utility employs to meet its service obligations is tailored to satisfying regulatory specifications, which are often articulated in terms of engineering standards for reliability, capacity, and so on. Moreover, capacity investments are designed to meet service requirements while passing the test of prudence reviews and used-and-useful tests for cost recovery.

Service quality regulations have several significant implications for the recovery of stranded investment. First, the types of facilities that are needed to meet regulatory requirements are often ill-suited to competitive markets. That fact does not in itself indicate that the regulated firm failed to invest wisely or that it embraced obsolete technology. Rather, the capacity that is best adapted for one type of market structure should not be expected to fit another type of market structure. For example, after airline deregulation, as airlines switched from direct routes to a hub-and-spoke system, they needed different airport accommodations and different types of planes. The capital equipment that a regulated monopoly needs to provide service is unlikely to match the needs of a competitive firm.

Second, the capital equipment that competitive firms need is meant to satisfy customer needs rather than one-size-fits-all technological standards. Thus, compared with a firm whose capital investment is designed to serve all in a uniform manner, entrants can target service offerings to specific customer needs and provide better service to some classes of customers.

Third, because the incumbent regulated firm built a system with substantial excess capacity, its cost of maintenance and operation can be expected to differ from those of entrants, who have the prerogative to ration customers. Moreover, the capital facilities of incumbents are long-lived, so that entrants can take advantage of technological change in the design of their facilities. Technological obsolescence of incumbent facilities thus need not indicate errors in the incumbent's investment strategy.

In the case of electric power, the utility must maintain sufficient generation, transmission, and distribution capacity to meet the pattern of demand with baseload, shoulder, and peaking capacity. Because the cost of storing power is prohibitive, and because regulators do not

permit rationing of residential and commercial customers, the utility must recover the costs of capacity through demand charges based on maximum use, and through energy charges. Moreover, the utility provides standby capacity because it must remain prepared to serve customers that self-generate or purchase power elsewhere, whenever they have additional needs for power.

Regulatory standards for generation, transmission, and distribution capacity generally specify high levels of reliability—typically one day of major power outages in ten years.⁴⁹ Utilities attempt to meet their power demand at lowest reasonable cost by operating an assortment of power plants (including nuclear, gas, fuel oil, and coal) and by purchasing power. Their supply problem differs from that of specialized entrants who can simply contribute power for resale within a pool arrangement. Utilities attempt to smooth the patterns of electricity usage through peak-load pricing or time-of-day pricing and through other programs to shift the costs of usage toward peak users. Rate regulation constrains such efforts, however. In addition, utilities address the variability of demand through the design of interruptible or curtailable rates that permit industrial users to obtain discounts in return for allowing their load to be dropped if capacity shortages occur during peak periods.

In telecommunications, utilities also must have sufficient transmission and switching capacity available to meet peak demand. Systems are designed in terms of reserve capacity, instead of limiting customer usage with system limits. Telecommunications facilities are designed to meet technical specifications for reliability and accuracy of transmission. Those standards can quickly become obsolete in a market with multiple providers and new transmission technologies such as digital signals and wireless personal communications services. In addition to such service-quality rules that affect capital investment, other rules set standards for time to answer (for operator pick-up), repair time, billing requirements (accuracy and specificity), and reliability in terms of reserve capacity. Those rules can create competitive disadvantages if they are imposed on incumbent utilities but not on entrants.

The Implicit Obligation to Maintain Capacity for the Return of the "Prodigal Son." The utility's obligation to maintain capacity for the return of departed customers is analogized to the parable of the prodi-

49. See LEONARD S. HYMAN, *AMERICA'S ELECTRIC UTILITIES: PAST, PRESENT AND FUTURE* 30 (Public Utilities Reports, Inc., 5th ed. 1994).

gal son.⁵⁰ In the parable, one son asks for his inheritance, leaves his father, and squanders his legacy; the other son stays and manages his father's farm. When the prodigal son returns, impoverished, and begs to be given a job as a mere laborer, the father instead lovingly welcomes the son back into the family and holds a feast to celebrate his return, which angers the loyal son.

Often a large customer will terminate service from the utility and turn either to a competing provider of service or to self-provision of the service. For example, a factory may install its own electrical generators. Nonetheless, the departing customer continues to enjoy the benefits of a service that the utility provides to it: insurance that the customer will be able to rely on the utility to supply service if the customer's alternative source of supply is inadequate. The utility must maintain sufficient capacity to serve the departed customer *if he returns*.

Until he actually returns to the utility, however, the departed customer makes no contribution to recovery of the utility's cost of maintaining standby capacity. Needless to say, the departed customer makes no contribution to margin with which the utility can recoup losses on services provided below cost to politically preferred constituencies. The departed customer is a free rider, and the remaining customers pay the premium on the insurance that he consumes. That insurance subsidy artificially raises the price of service to remaining customers and makes alternative provision of the utility's service increasingly attractive to the utility's remaining customers, particularly large users.

The Current Use and Usefulness of "Excess" Capacity. Given the utility's obligation to serve future demand, it should be clear that available generation capacity is used and useful in conferring a current benefit on consumers apart from their current consumption of power. Current consumers derive a current benefit from the ability of the utility's existing infrastructure to accommodate unexpected peaks in usage or growth in demand. Whether an investment is economically beneficial depends upon a wide variety of factors. Obviously, if current capacity is insufficient to meet demand at prevailing prices and an investment in plant yields added capacity, then the output generated by

50. *Luke* 15:11-32. See, e.g., Establishment of Backup and Maintenance Rates, Dkt. No. 94-176, slip op. (Me. Pub. Utils. Comm'n May 25, 1994); Backup and Maintenance Rates and the Treatment of Stranded Costs, Dkt. No. 94-176, 152 P.U.R.4th 349 (Me. Pub. Utils. Comm'n 1994).

that added capacity unquestionably constitutes an economic benefit. Where capacity is not in short supply, further analysis may nonetheless reveal that some other form of current economic benefit accrues to utility customers and to the general public from capacity expansion. Those benefits may include greater network reliability and insurance against longer-period capacity shortages resulting from unforeseeable increases in demand. In addition, the availability of capacity at any given moment reflects that technology and other factors make investment inherently "lumpy."

Consumers of electric power currently benefit from all of those possible consequences. Although at first glance it may appear otherwise, a benefit such as the avoidance of capacity shortages is not different in principle from direct financial benefits, such as lower operating costs. Each benefit has a savings in costs that corresponds to and appropriately measures its economic value, even if that value cannot be definitively quantified in monetary terms. For example, consumers clearly benefit if the utility has enough additional generation capacity to reduce the risk of outages and network failure. Provision against risk is a tangible product that is bought and sold in a market at observable prices, as the existence of the insurance industry attests.

The existence of available capacity that reduces risk frees the utility, and ultimately its customers, from the need to bear the costs that would be entailed in incurring those risks. It also frees the utility's business customers from incurring the cost of business-interruption insurance against any financial damages to them arising from a power outage. Each of those burdens has an obvious financial cost whose magnitude can, at least in principle, generally be estimated.

Exit Regulation. One significant but neglected implication of the utility's obligation to serve is that the utility cannot exit a market at will. A utility must secure the regulator's authorization through an abandonment proceeding to withdraw service.⁵¹ Unlike the utility, competitive entrants can abandon any of their facilities at will. The pro-

51. CHARLES F. PHILLIPS, JR., *THE REGULATION OF PUBLIC UTILITIES* 570 (Public Utilities Reports, Inc., 3d ed. 1993) ("Voluntary abandonment, either partial or complete, must be approved by the regulatory commissions."); WILLIAM K. JONES, *REGULATED INDUSTRIES: CASES AND MATERIALS* 333-39 (Foundation Press 1976); Oliver P. Field, *The Withdrawal from Service of Public Utility Companies*, 35 *YALE L.J.* 169 (1925); Ford P. Hall, *Discontinuance of Service by Public Utilities*, 13 *MINN. L. REV.* 181, 325 (1929); Note, *The Duty of a Public Utility to Render Adequate Service: Its Scope and Enforcement*, 62 *COLUM. L. REV.* 312, 319-22 (1962).

hibition on abandonment is therefore clearly an incumbent burden, one closely related to the utility's universal service obligation. Regulators should lift the prohibition on abandonment as soon as they permit competitive entry into the utility's service area. Until that time, the utility, compared with the unregulated firm, faces a barrier to exit. That barrier is substantial because, given rate averaging, the utility is inevitably required to offer some customers service at uncompensatory prices.

In fact, the prohibition against a public utility's exiting its franchise area is symmetrical to the *McCall* rule compelling the utility to extend service: If the utility is at least breaking even, then it can be denied the freedom to terminate service on a line that produces an incremental loss, just as it can be compelled to extend service to new customers who would produce an incremental loss.⁵² A representative statement of the rule appears in a 1918 decision involving a municipal railway:

If a railway company is under a statutory or a contract duty to maintain and operate a line, it will be compelled by injunction or mandamus so to do, even though the further operation should be at a loss. It is only when there is no valid or binding obligation to continue operations that the company may, at its discretion, abandon an unprofitable line or branch. If there is a binding obligation to maintain and operate a part of a system, it is questionable whether that part or branch can ever be abandoned, unless the losses inflicted by its continued operation are such as will wreck the entire system.⁵³

The prohibition on exit is thus another aspect of the regulatory contract that compels the utility to deviate from subsidy-free prices.

The question of abandonment and the utility's right to withdraw service provides a valuable perspective on the regulatory contract con-

52. *Fort Smith Light & Traction Co. v. Bourland*, 267 U.S. 330 (1925); *Iowa v. Old Colony Trust Co.*, 215 F. 307 (8th Cir. 1914); *Crawford v. Duluth Street Ry.*, 60 F.2d 212 (7th Cir. 1932); *Columbus Ry. Power & Light Co. v. Columbus*, 253 F. 499 (S.D. Ohio 1918), *aff'd*, 249 U.S. 399 (1919); *Salina v. Salina Street Ry.*, 114 Kan. 734, 220 P. 203 (1923); *Northern Ill. Light & Traction Co. v. Commerce Comm'n.*, 302 Ill. 11, 134 N.E. 142 (1922). The Supreme Court stated in *Texas R.R. Comm'n v. Eastern Texas R.R.*, 264 U.S. 79, 85 (1924), that "if at any time it develops with reasonable certainty that future operations must be at a loss, the company may discontinue operation and get what it can out of the property by dismantling the road." To require otherwise would effect a confiscation of property: "To compel it to go on at a loss, or to give up the salvage value, would be to take its property without just compensation which is a part of due process of law." *Id.*

53. *Columbus Ry. Power & Light Co. v. Columbus*, 253 F. 499, 505 (D. Ohio 1918), *aff'd*, 249 U.S. 399 (1919).

cerning the question of whether that contract is enforceable against the utility. The contractual or statutory limits on abandonment resemble a specific performance requirement for the utility. When a party to private contract commits a breach, an Anglo-American court disfavors specific performance and will order it only when the service or good is unique or when the buyer could not obtain a similar contract in the market.⁵⁴ The idea that the municipality or regulatory commission cannot obtain a similar contract in the market motivates the prerogative that the commission enjoys at common law, a prerogative resembling the remedy of specific performance, to demand that the utility discharge its obligation to serve by not abandoning routes or lines serving an incrementally unprofitable group of customers. With the arrival of competition, however, the motivation for restrictions on abandonment would seem to vanish, for the regulator then can rely on the market to obtain services for those customers whom the utility would abandon. That rationale can be found in the existing cases. Courts have considered the availability of adequate substitute service relevant to whether the regulated firm may be allowed to abandon service on a line or to a group of customers that is incrementally unprofitable.⁵⁵ When such substitutes are available, courts have even allowed the regulated firm that is profitable as a whole to exit an incrementally unprofitable segment of the market.⁵⁶

THE DURATION OF THE REGULATORY CONTRACT

How long does the regulatory contract last? Contracts in general exist because performance takes time. Thus, the duration of the contract reflects the time required for performance to be completed. The duration of the regulatory contract corresponds to the economic lifetime of the assets

54. See Anthony T. Kronman, *Specific Performance*, 45 U. CHI. L. REV. 351 (1978); Alan Schwartz, *The Case for Specific Performance*, 89 YALE L.J. 271 (1979); Thomas S. Ulen, *The Efficiency of Specific Performance: Toward a Unified Theory of Contract Remedies*, 83 MICH. L. REV. 341 (1983); Steven Shavell, *The Design of Contracts and Remedies for Breach*, 99 Q.J. ECON. 121 (1984); William Bishop, *The Choice of Remedy for Breach of Contract*, 14 J. LEGAL STUD. 299 (1985).

55. *Mississippi R.R. Comm'n v. Mobile & O.R.R. Co.*, 244 U.S. 388 (1917); *State ex rel. Kirkwood v. Public Serv. Comm'n*, 330 Mo. 507, 50 S.W.2d 114 (1932).

56. *Cincinnati N. R.R. v. Public Utils. Comm'n*, 119 Ohio St. 568, 165 N.E. 38 (1929) (railroad passengers adequately served by bus); *Union Pac. R.R. v. Public Serv. Comm'n*, 102 Utah 465, 132 P.2d 128 (1942) (same).

employed by the utility to perform its service obligations. The regulatory contract typically lasts a long time because the assets employed in network industries are irreversible and market-specific with a long lifetime. The utility performs its contractual obligations during the period of time that its facilities are used and useful. Consumers continue to receive the services of those assets even after the costs have been fully recovered through amortization.

The high costs of investment in network facilities and the extended economic lifetime of those facilities make it desirable for consumers to pay for services as they are received. Thus, investors in regulated utilities not only finance the firm's investment, but also implicitly finance the payments of consumers. Consumers receive the services of long-lived assets in a manner similar to leasing capital equipment.

Because of the irreversible nature of investment, the duration of the regulatory contract also depends on the buyer's performance. Thus, the regulatory contract lasts until the firm has had a reasonable opportunity to recover the nonsalvageable investments that it made to provide service to the public. In contracts with explicit durations, that concern for cost recovery manifests itself in a lengthy term of the utility's franchise. The legal answer to the question of the regulatory contract's duration mirrors that economic reasoning. Oscar L. Pond wrote in his 1913 treatise that "the erection and maintenance of [public utility] systems require so large an investment that private capital will not undertake such enterprises under franchises running for unreasonably short periods of time."⁵⁷ Moreover, Pond noted, "the property so used can not be easily turned or converted into cash," a clear recognition of the risk to the utility of the asset specificity inherent in its investment in infrastructure.⁵⁸

It bears emphasis, particularly in the absence of an explicitly defined duration for the contract, that the regulator, by imposing depreciation policies (or other regulatory policies) that cause cost recovery to lag behind actual economic depreciation, in effect extends the duration of the contract until such time as the utility has received the reasonable opportunity to recoup its true economic costs—both operating costs and capital costs. Irston R. Barnes described two possible legal forms consistent with that economic proposition. The first was a *perpetual franchise*. Though a franchise was "seldom made perpetual by its terms," Barnes noted, "if the franchise is silent with respect to its duration and if there are not general

57. POND, *supra* note 35, at § 120 at 158.

58. *Id.* § 121 at 158.

laws of the state imposing a limitation with respect to their duration, the courts may hold the franchise to be perpetual."⁵⁹

The second form was the *indeterminate permit* or *terminable franchise*. Under such a franchise, which eighteen states permitted at the time that Barnes wrote in 1942, "[t]he utility continues to enjoy the privileges of the franchise until the municipality acts to take over the property," which as a practical matter "means that the franchise endures as long as the service continues to be satisfactory."⁶⁰ A public utility that satisfactorily performed its public service obligations would have "what is in effect a perpetual franchise," subject to the municipality's option to terminate the franchise and "pay the purchase price of the property."⁶¹ The terminable franchise closely resembles the long-term relational contracting that Goldberg, Williamson, and other economists would describe several decades later. Barnes seemed to consider the terminable franchise to be the most efficient contracting form of his day for balancing the competing interests of the utility, the municipality, and consumers. The benefits to the utility were lessened risk for its asset-specific investment and, hence, a lower cost of capital:

The company is secure in the possession and operation of its property. . . . [T]he investment of capital is readily induced on favorable terms. Expenditures for improvements and extensions are willingly undertaken, since all of the legitimate investment must be fully compensated if the municipality decides to take possession of the property.⁶²

The terminable franchise gave the municipality "full control with respect to the future conduct of the utility."⁶³ At the same time, however, the municipality forbore from holding periodic proceedings to renew the franchise. The municipality thus avoided the "bickering and controversy" over

59. BARNES, *supra* note 40, at 219 (citing *Owensboro v. Cumberland Tel. & Tel. Co.*, 230 U.S. 58 (1913); *Ohio Pub. Serv. Co. v. Ohio*, 274 U.S. 12 (1927)).

60. *Id.* at 221. The states were Arkansas, California, Colorado, Connecticut, Idaho, Illinois, Indiana, Kansas, Louisiana, Maryland, Missouri, Montana, New Hampshire, North Dakota, Ohio, South Carolina, Vermont, and Wisconsin. *Id.* at 212 n.3. The two other types of franchises that Barnes described were the *long-term franchise*, lasting twenty to fifty years, and the *short-term franchise*, lasting ten years or fewer but frequently having a virtually automatic privilege of renewal for an equal number of years. *Id.* at 219-20.

61. *Id.* at 221. "It is therefore of crucial importance," Barnes added, "that the franchise define precisely the procedure by which the property shall be valued." *Id.*

62. *Id.*

63. *Id.*

franchise renewal that one can imagine could have signaled opportunism by the municipality.⁶⁴

THE CONTRACTUAL FOUNDATIONS OF *CHARLES RIVER BRIDGE* AND *MUNN V. ILLINOIS*

Some who oppose the recovery of stranded investment by the regulated firm assert that the regulatory contract is a recent fabrication. Economist Robert J. Michaels, for example, wrote in 1995:

Voltaire said that history was nothing but a fable that had been generally agreed upon. The fictitious regulatory compact that justifies stranding compensation makes for poor history and misleading fable. Despite frequent claims that its roots go back to *Hope* and *Bluefield*, the compact is a recent intellectual invention. According to a LEXIS® search, the first regulatory and court decisions to mention it only appear in 1983 and 1984. The legislative history of regulation is strikingly devoid of references to a compact, and no known regulation arose from a collaborative effort at which anything resembling a compact was on the agenda. "Stranded investment" carries a similarly short pedigree, and is to this day absent from textbooks on regulation and industrial organization.⁶⁵

Other economists—including William A. Niskanen, Michael T. Maloney, and Robert E. McCormick—have repeated that claim.⁶⁶ No amount of

64. *Id.*

65. Robert J. Michaels, *Stranded Investment Surcharges: Inequitable and Inefficient*, PUB. UTIL. FORTNIGHTLY, May 15, 1995, at 21, 21. Presumably, Michaels is referring to *New England Coalition on Nuclear Pollution v. Nuclear Reg. Comm'n*, 727 F.2d 1127, 1130 (D.C. Cir. 1984) ("It may be possible to believe (though we do not pass upon the point), as the Commission evidently believed when it issued its proposed rule, that the very nature of government rate regulation—a compact whereby the utility surrenders its freedom to charge what the market will bear in exchange for the state's assurance of adequate profits—assures financial stability for public utilities.") (Scalia, J.); *Washington Utils. & Transp. Comm'n v. Puget Sound Power & Light Co.*, 62 P.U.R.4th 557, 589 (Wash. 1984) ("Understanding the dichotomy between the treatment of expenses prudently undertaken to provide service and providing a return on investment and that they are two separate matters is critical to the understanding of the regulatory compact and the operation of utilities.").

66. William A. Niskanen, *A Case Against Both Stranded Cost Recovery and Mandatory Access*, REGULATION, 1996 no. 1, at 16 (1996); 1 MICHAEL T. MALONEY & ROBERT E. MCCORMICK WITH RAYMOND D. SAUER, CUSTOMER CHOICE, CUSTOMER VALUE: AN ANALYSIS OF RETAIL COMPETITION IN AMERICA'S ELECTRIC INDUSTRY 6 (Citizens for a Sound Economy Foundation 1996). Niskanen asserts that "[t]here never was a 'regulatory compact'" but then supports that claim with the statement that "consumers would never have agreed to guarantee the value of investments against major changes in technology or the

repetition, however, alters the fact that Michaels's claim is false. It does not comport with American legal and economic history.

In his 1942 treatise, *The Economics of Public Utility Regulation*, Irston R. Barnes of Yale University chronicled the various "theories as to the basis of the public interest," one of which he called the "implied-contract theory."⁶⁷ Barnes described that theory, which he distinguished from four other legal theories of the basis for public utility regulation, in the following terms:

It has been said that the basis for the distinction between those businesses whose prices are subject to governmental control and those that are free from such control is to be found in the implied contract that may be assumed to exist when the business enjoys peculiar rights or privileges from the government. If the business operates under special franchises which give it the right to occupy the public streets with its structures and equipment, the contention may be advanced that it is under an implied contract to accept regulation in the interest of the general public. Or again, if the corporation has been given the right to use the power of eminent domain in the acquisition of property, it is said that it has thereby acquiesced in the supervision of its business by the public.⁶⁸

Barnes argued that, during the half-century between 1877 and 1927, the implied-contract theory had had such "supporters on the Supreme Court" as Chief Justice William Howard Taft and Justices Stephen J. Field, Joseph R. Lamar, and George Sutherland.⁶⁹ Barnes was correct in his observation that a contract existed, but he did not understand all the terms of the contract as we described them in the preceding section.

market." Niskanen, *supra*, at 16. As chapter 6 explains, however, it is major change in *regulation*, not technology or the market, that gives rise to compensable stranded costs. Maloney and McCormick dismiss the existence of the regulatory contract solely on the basis of one irrelevant decision in which the Temporary Court of Emergency Appeals rejected a party's poorly briefed argument that the Ninth Amendment created a constitutional right "to trust the federal government and to rely on the integrity of its pronouncements." *Mapco Inc. v. Carter*, 573 F.2d 1268, 1277-78 (Temp. Ct. Emergency App. 1978), *quoted in* Maloney & McCormick, *supra*, at 6. Maloney and McCormick do not discuss the law of contract or takings jurisprudence.

67. BARNES, *supra* note 40, at 13, 14.

68. *Id.* at 14.

69. *Id.* at 14 & nn.43-46 (citing *Munn v. Illinois*, 94 U.S. (4 Otto) 113, 146-47 (1877) (Field, J., dissenting); *German Alliance Ins. Co. v. Kansas*, 233 U.S. 389, 426 (1914) (Lamar, J.); *Wolff Packing Co. v. Industrial Ct.*, 262 U.S. 522, 535 (1923) (Taft, C.J.); *Tyson & Brother v. Banton*, 273 U.S. 418, 439 (1927) (Sutherland, J.)).

The Supreme Court showed greater sophistication of its understanding of the causes and consequences of the regulatory contract. Other prominent jurists—including Justices John Marshall Harlan, Oliver Wendell Holmes, Charles Evans Hughes, and Rufus W. Peckham—wrote opinions for the Court during the late nineteenth and early twentieth centuries that emphasized the contractual nature of public utility regulation. As numerous decisions document, the Court repeatedly expressed its understanding that asset-specific investment by public utilities would take place only if the government credibly committed itself not to expropriate the value of that private investment.

One can find even earlier origins of the regulatory contract in two of the Supreme Court's most notable decisions concerning regulation and public contracting: *Charles River Bridge v. Warren Bridge*⁷⁰ and *Munn v. Illinois*.⁷¹ The two cases show that the concept of a public utility, as well as the subsequent premise for public utility regulation, rested explicitly on contract law.

Charles River Bridge

In 1837 the Court emphasized the power of the state to safeguard the interests of the community when it ruled against the interests of an operator of a private toll bridge in *Charles River Bridge*. For present purposes the decision is notable because of the common understanding throughout it that the relationship between the state and the private firm was contractual in nature. By an act of 1785, the Massachusetts legislature incorporated the Proprietors of the Charles River Bridge, authorizing the corporation to construct a bridge over the Charles River between Boston and Charlestown. The legislature granted the Proprietors of the Charles River Bridge the right to own the bridge and to collect tolls for passage over it for a period of forty years. The bridge opened to traffic in 1786. In 1792 the state legislature extended the life of the charter until 1856. In 1828 the Massachusetts legislature incorporated the Proprietors of the Warren Bridge, authorizing the corporation to construct another bridge over the Charles River near the Charles River Bridge. After the Proprietors of the Warren Bridge had earned the agreed-upon return on their investment by operating the bridge as a rival toll bridge, ownership of the bridge was to revert to the state. The Proprietors of the Charles River Bridge sought to enjoin the construction of the Warren Bridge. During the pendency of the

70. 36 U.S. (11 Pet.) 420 (1837).

71. 94 U.S. (4 Otto) 113, 124 (1877).

case, the Warren Bridge was built and the Proprietors of the Warren Bridge reaped sufficient return from tolls so that the ownership of the bridge reverted to the state, at which point the state made the Warren a free bridge, and "the value of the franchise granted to the proprietors of the Charles River Bridge [was] entirely destroyed."⁷²

Writing for the Court, Chief Justice Roger B. Taney ruled that the case should turn simply on whether the authorization and subsequent construction of the Warren Bridge was an act of the Massachusetts legislature that impaired obligations of the contract between the Proprietors of the Charles River Bridge and the state of Massachusetts. Citing precedent, he affirmed that an abandonment of a state's power to enact subsequent legislation "ought not to be presumed, in a case, in which the deliberate purpose of the State to abandon it does not appear."⁷³ Chief Justice Taney, therefore, gave strict construction to the Charles River Bridge charter and found that, in the absence of an explicit grant, the Massachusetts legislature did not convey any implied right of exclusivity to the Proprietors of the Charles River Bridge; although the creation of the Warren Bridge completely destroyed the value of the Charles River Bridge franchise, it did not impair any obligations under the contract in question.⁷⁴

Chief Justice Taney assumed a particularly narrow perspective in considering the existence of a contract between the state and the Proprietors of the Charles River Bridge. He declined to examine the totality of the relationship as it arose under the charter. Instead, he simply inquired whether there was a contract that specifically forbade the state from chartering a second bridge. Chief Justice Taney concluded that no implied contract existed that prohibited the state's actions with regard to the Warren Bridge.⁷⁵ In essence, Chief Justice Taney failed to look at the legal relationship established under the act of the Massachusetts in 1785 and to analyze whether the creation of the second bridge detrimentally affected any legal rights arising under that relationship. With his strict construction of the charter, he sought to answer only whether there existed an implied contract to maintain the exclusivity of the charter.

Chief Justice Taney wrongly addressed the amendment of the charter in 1792. In that year, the state legislature chartered the West Boston Bridge to be located at a different point along the river, "which they knew would

72. 36 U.S. (11 Pet.) at 538.

73. *Id.* at 548 (citing *Providence Bank v. Billings & Pittmann*, 29 U.S. (4 Pet.) 514 (1830)).

74. *Charles River Bridge*, 36 U.S. at 548.

75. *Id.* at 551.

lessen [the Charles River Bridge's] profits."⁷⁶ As compensation for the lost profits, the legislature granted to the Proprietors of the Charles River Bridge an extension to their charter. Rather than recognize the quid pro quo inherent in the charter's amendment, Taney mischaracterized the legislative intent to maintain the investment expectations of the Proprietors of the Charles River Bridge:

On the contrary, words are cautiously employed to exclude that conclusion; and the extension is declared to be granted as a reward for the hazard they had run, and "for the encouragement of enterprise." The extension was given because the company had undertaken and executed a work of doubtful success; and the improvements which the Legislature then contemplated, might diminish the emoluments they had expected to receive from it.⁷⁷

The other justices writing opinions did not share Chief Justice Taney's narrow perspective.

In his concurrence, Justice John McLean recognized the relationship between the state of Massachusetts and the Proprietors of the Charles River Bridge as a contract:

Where the Legislature, with a view of advancing the public interest by the construction of a bridge, a turnpike road, or any other work of public utility, grants a charter, no reason is perceived why such a charter should not be construed by the same rule that governs contracts between individuals.

The public, through their agent, enter into the contract with the company; and a valuable consideration is received in the construction of the contemplated improvement. This consideration is paid by the company, and sound policy requires, that its rights should be ascertained and protected, by the same rules as are applied to private contracts.⁷⁸

Justice McLean considered his construction of charters or franchises to be necessary to stimulate private undertaking for the public good:

The unrestricted profits contemplated, were necessary to induce or justify the undertaking. Suppose within two or three years after the Charles River Bridge had been erected, the Legislature had authorized another bridge to be built alongside of it, which could only accommodate the same line of travel. Whether the profits of such a bridge were realised by a company or by the State, would not the act of the Legislature have been deemed so

76. *Id.* at 550.

77. *Id.* at 551.

78. *Id.* at 557 (McLean, J., concurring).

gross a violation of the rights of the complainants, as to be condemned by the common sense and common justice of mankind?⁷⁹

In an early recognition of the concept of opportunity costs, Justice McLean noted that "[t]he value of the bridge is not estimated by the quantity of timber and stone it may contain, but by the travel over it."⁸⁰ In his view, the state eliminated the value of the Charles River Bridge by authorizing the construction of the Warren Bridge and establishing it as a free bridge: "The sovereign power of the State has taken the tolls of the complainants, but it has left them in possession of their bridge. Its stones and timbers are untouched, and the roads that lead to it remain unobstructed."⁸¹ Nonetheless, by the end of his meandering concurrence, Justice McLean declined to view the Massachusetts legislature as having impaired any obligations under the Charles River Bridge contract, the existence of which he had belabored to demonstrate. Justice McLean's conclusion appears to have turned on his tacit assumption that, from 1785 to roughly 1828, the Proprietors of the Charles River Bridge had reaped enough profit from their undertaking to more than recover their invested capital, which thereby relieved the state from its contractual obligations and freed it to charter a second bridge.

Even Justice Joseph Story in dissent found the charter to be a contract. After surveying much common law and explaining the king's prerogative to repeal or amend his conveyance, Justice Story countered with a statement of his view of the law:

[A]ll this doctrine in relation to the king's prerogative of having a construction in his own favor, is exclusively confined to cases of mere donation, flowing from the bounty of the crown. Whenever the grant is upon a valuable consideration, the rule of construction ceases; and the grant is expounded exactly as it would be in the case of a private grant, favorably to the grantee. Why is this rule adopted? Plainly, because the grant is a contract, and is to be interpreted according to its fair meaning. It would be to the dishonor of the government, that it should pocket a fair consideration, and then quibble as to the obscurities and implications of its own contract.⁸²

Applying his rule to the facts of the case at hand, Justice Story concluded that, "upon the principles of common reason and legal interpretation, the

79. *Id.* at 562.

80. *Id.*

81. *Id.* at 565.

82. *Id.* at 597 (Story, J., dissenting).

present grant carries with it a necessary implication that the Legislature shall do no act to destroy or essentially to impair the franchise."⁸³

Munn v. Illinois

The Court's historic 1877 decision in *Munn v. Illinois* begins its defense of the constitutionality of rate regulation of grain elevators with a long-winded recitation of how membership in a civil society entails the consent of each citizen to what the preamble of the Constitution of Massachusetts called a "social compact."⁸⁴ That compact, while it "does not confer power upon the whole people to control rights which are purely and exclusively private," wrote Chief Justice Morrison Waite for the majority, "does authorize the establishment of laws requiring each citizen to so conduct himself, and so use his own property, as not unnecessarily to injure another."⁸⁵ In only four more sentences Chief Justice Waite purported to establish the direct lineage of such weighty political theory to the more prosaic practice "customary in England from time immemorial, and in this country from its first colonization, to regulate ferries, common carriers, hackmen, bakers, millers, wharfingers, innkeepers, &c."⁸⁶

Munn discusses the unique character of the property of a regulated firm, and for that reason we return to the decision in our discussion in chapter 6 of property-based protections for abrogation of the regulatory contract. For present purposes, however, *Munn* is illuminating because it described a kind of metamorphosis that property was thought to undergo when it became so productive as to command a substantial market:

Looking . . . to the common law, from whence came the right which the Constitution protects, we find that when private property is "affected with a public interest, it ceases to be *juris privati* only." This was said by Lord Chief Justice Hale more than two hundred years ago . . . and has been accepted without objection as an essential element in the law of property ever since.⁸⁷

To Chief Justice Waite and the majority, property becomes "clothed with a public interest when used in a manner to make it of public consequence,

83. *Id.* at 646.

84. 94 U.S. (4 Otto) 113, 124 (1877).

85. *Id.*

86. *Id.*

87. *Id.* at 125-26.

and affect the community at large.”⁸⁸ That process, the Court reasoned, effected an implicit transfer of a property rights from the owner to the public: “When . . . one devotes his property to a use in which the public has an interest, he, in effect, grants to the public an interest in that use, and must submit to be controlled by the public for the common good, to the extent of the interest he has thus created.”⁸⁹ From his analogies to common carriers under English law, it was clear that Chief Justice Waite envisioned a bargain between the state and the owner of the property that had become clothed with a public interest.⁹⁰

In a better-reasoned dissent, Justice Stephen Field thought that Chief Justice Waite’s statement of the rule was excessively broad:

When Sir Matthew Hale, and the sages of the law in his day, spoke of property as affected by a public interest, and ceasing from that cause to be *juris privati* solely, that is, ceasing to be held merely in private right, they referred to property dedicated by the owner to public uses, or to property the use of which was granted by the government, or in connection with which special privileges were conferred. Unless the property was thus dedicated, or some right bestowed by the government was held with the property, either by specific grant or by prescription of so long a time as to imply a grant originally, the property was not affected by any public interest so as to be taken out of the category of property held in private right.⁹¹

Despite the fact that he was dissenting, from that passage it should be clear that even Justice Field could have agreed that the typical bargain between a public utility and its regulator entailed a quid pro quo in the form of a private franchise. Later in his dissent, Justice Field expressly spoke of the government’s right to regulate rates as an implicit condition

88. *Id.* at 126.

89. *Id.* The Court explained that the owner could rescind his grant of property rights to the public: “He may withdraw his grant by discontinuing the use; but, so long as he maintains the use, he must submit to the control.” *Id.* As our previous discussion of abandonment indicates, however, a public utility would subsequently be found to face barriers to withdrawing its property from public use, notwithstanding that language in *Munn*.

90. Richard A. Epstein’s reading of *Munn* comports with our contractual interpretation of that decision. He observes that Chief Justice Waite “noted that traditional common carrier obligations imposed upon a party receiving a legal monopoly the obligation to charge only reasonable fees for the services rendered, where the restriction on the power to charge what one sees fit is the quid pro quo for the monopoly in question.” RICHARD A. EPSTEIN, TAKINGS: PRIVATE PROPERTY AND THE POWER OF EMINENT DOMAIN 168 n.15 (Harvard University Press 1985).

91. *Id.* at 139–40 (Field, J., dissenting).

of the bargain under which it conferred special benefits on the regulated firm.⁹² He argued that in the frequently cited cases of

public ferries, bridges, and turnpikes, of wharfingers, hackmen, and draymen, . . . there was some special privilege granted by the State or municipality; and no one, I suppose, has ever contended that the State had not a right to prescribe the conditions upon which such privilege should be enjoyed. The State in such cases exercises no greater right than an individual may exercise over the use of his own property when leased or loaned to others.⁹³

To Justice Field, therefore, the state's power to impose rate regulation was the result of a bargain in which the state conferred special benefits on the regulated firm in return for its acceptance of rate regulation and public service obligations.

EXPLICIT CONTRACTING BETWEEN MUNICIPALITIES AND PUBLIC UTILITIES

The notions of bargaining between the regulator and the regulated firm, which pervade *Munn* in both Chief Justice Waite's majority opinion and Justice Field's dissent, are repeated many times over in practice. Numerous court decisions and scholarly writings from the late nineteenth and early twentieth centuries flatly contradict Robert J. Michaels's assertion that the regulatory contract is a recent concoction, as does recent research showing the contractual origins of public utility regulation.⁹⁴ That Michaels's LEXIS research did not produce more or earlier reported cases may reflect nothing more profound than his evident failure to recognize that, as Justice Story noted in *Green v. Biddle* in 1823, "the terms com-

92. "It is only where some right or privilege is conferred by the government or municipality upon the owner, which he can use in connection with his property, or by means of which the use of his property is rendered more valuable to him, or he thereby enjoys an advantage over others, that the compensation to be received by him becomes a legitimate matter of regulation. Submission to the regulation of compensation in such cases is an implied condition of the grant, and the State, in exercising its power of prescribing the compensation, only determines the conditions upon which its concession shall be enjoyed. When the privilege ends, the power of regulation ceases." *Id.* at 146-47 (Field, J., dissenting).

93. *Id.* at 148-49.

94. George L. Priest, *The Origins of Utility Regulation and the "Theories of Regulation" Debate*, 36 J.L. & ECON. 289 (1992). For a critique of Priest's article, see Geoffrey P. Miller, *Comment on Priest, "The Origins of Utility Regulation and the 'Theories of Regulation' Debate,"* 36 J.L. & ECON. 325 (1993).

compact and contract are synonymous."⁹⁵ Even if Michaels could prove that the phrase "regulatory compact" was recently coined to refer to the contractual relationship under discussion, that fact would not begin to rebut the evidence that municipalities and public utilities routinely entered into explicit contracts in the nineteenth and early twentieth centuries, before the advent in most states of public utilities commissions.

Voluntary Exchange

The regulatory contract in the United States was born roughly 180 years ago, the offspring of public necessity and private undertaking. During the first half of the nineteenth century, city governments lacked the necessary financial resources and expertise to provide their citizens all the benefits that might flow from the momentous scientific and industrial developments of that era. So the cities solicited the help of private entrepreneurs.⁹⁶ State legislatures or local municipalities offered charters or franchises to railroads and utilities. Those contracts gave the private firms critical access to public rights-of-way and often delegated to them the power of eminent domain. In return, the companies committed to building the costly infrastructures, and they accepted the obligation to serve the public on a non-discriminatory basis at reasonable rates. Each franchise was the product of a bargained-for exchange, satisfying the public need for services such as water and electricity, while allowing the private enterprise the opportunity to earn a competitive return and the recovery of its invested capital. It is therefore inaccurate to deny either the contractual origins of the present regulatory relationship, the contractual motivations for the subsequent transition from municipal franchising to state regulatory commissions, or the contractual essence of the regulatory relationship that resulted from that transition. "The franchise is a contract between the utility and the municipality," wrote Irston R. Barnes in 1942, "and since both parties are

95. 21 U.S. (8 Wheat.) 1, 92 (1823).

96. WILLIAM M. IVINS & HERBERT DELAVAN MASON, *THE CONTROL OF PUBLIC UTILITIES* 4-15 (Baker, Voorhis & Co. 1908); 1 DELOS F. WILCOX, *MUNICIPAL FRANCHISES* 1-3 (Gervaise Press 1910); JOSEPH A. JOYCE, *A TREATISE ON FRANCHISES* 542-54 (Banks Law Publishing Co. 1914); HERBERT B. DORAU, *MATERIALS FOR THE STUDY OF PUBLIC UTILITY ECONOMICS* 2-9, 12-22, 33-61 (Macmillan Co. 1930); Felix Frankfurter & Henry M. Hart, Jr., *Rate Regulation*, in 13 *ENCYCLOPAEDIA OF THE SOCIAL SCIENCES* 104, 105 (Edwin R. A. Seligman & Alvin Johnson, eds., Macmillan Co. 1934); ELI WINSTON CLEMENS, *ECONOMICS AND PUBLIC UTILITIES* 72-73 (Appleton-Century-Crofts, Inc. 1950). For a thorough discussion of the various types of franchises that municipalities and utilities devised, see BARNES, *supra* note 40, at 218-41.

bound thereby it is important that its terms be carefully drawn with due regard to the legitimate interests of each."⁹⁷

Half a century later, another Yale professor, George L. Priest proposed an explanation for the use of municipal franchising that is grounded in voluntary exchange and contractual adaptation:

Public utility companies voluntarily entered contracts subjecting themselves to regulation in order to gain authority to use public rights-of-way for laying gas and water pipes, stringing telephone and electric poles, burying electrical wires, and laying street railway tracks. Regulation of the utility's activities and terms of business resulted from a negotiation between the municipal government and the utility in a context that both parties recognized saved the utility the costs of negotiating with and securing rights from the individual property owners they intended to serve.⁹⁸

New York City, for example, introduced franchise contracts as early as the 1820s for gas and the 1830s for street railway transportation.⁹⁹ Other franchises for services such as electricity, water, street railways, toll bridges, and telephone service soon followed.

The franchise was a legal instrument—a contract having all the constitutional protection that a contract between private parties would enjoy. Joseph Joyce, writing at the turn of the twentieth century in his treatise on municipal franchises, observed:

[F]ranchises are based in this country upon contracts between the sovereign power and a private citizen, made upon a valuable consideration for purposes of public benefit as well as for individual advantage; and it is said by Chancellor Kent that franchises "contain an implied covenant on the part of the government not to invade the right vested, and on the part of the grantees to execute the conditions and duties prescribed in the grant. Some of these franchises are presumed to be founded on a valuable consideration, and to involve public duties, and to be made for public accommodation, and to be affected with *jus publicum*, and they are necessarily exclusive in

97. *Id.* at 219.

98. Priest, *supra* note 94, at 303. Economist Kenneth Rose makes the contradictory—and, in our view, historically indefensible—argument that "[t]he regulatory contract is not necessarily a voluntary agreement accepted by utilities." KENNETH ROSE, AN ECONOMIC AND LEGAL PERSPECTIVE ON ELECTRIC UTILITY TRANSITION COSTS 42-43 (National Regulatory Research Institute, July 1996).

99. Priest, *supra* note 94, at 301.

their nature. The government cannot resume them at pleasure, or do any act to impair the grant, without a breach of contract."¹⁰⁰

From that absolutist view of the municipal franchise as contract, which the government could not unilaterally amend, the modern regulatory contract emerged. In a 1912 decision concerning municipal regulation of gas prices, *Cedar Rapids Gas Light Co. v. City of Cedar Rapids*, Justice Oliver Wendell Holmes wrote for a unanimous Supreme Court that such regulation "has to steer between Scylla and Charybdis."¹⁰¹ for it resulted from bilateral bargaining in the shadow of takings jurisprudence:

On the one side if the franchise is taken to mean that the most profitable return that could be got, free from competition, is protected by the Fourteenth Amendment, then the power to regulate is null. On the other hand if the power to regulate withdraws the protection of the Amendment altogether, then the property is nought. This is not a matter of economic theory, but of fair interpretation of a bargain. Neither extreme can have been meant. A midway between them must be hit.¹⁰²

The municipality did not unilaterally thrust regulation on the utility. Rather, municipal regulation resulted from voluntary exchange: "It is true that the contract was in the form of an ordinance, but the ordinance was drawn as a contract to be accepted and it was accepted" by the utility.¹⁰³

The Ascent of Contract

The courts have defined the degree to which government may regulate utilities during any given period. The extent of regulation allowed by the courts, in turn, reflected the degree to which the government depended upon and strove to nurture the utility, given the current economic and social climate. Thus, as the railroads became a powerful economic force sooner than the electric, water, or telephone companies, the courts were more willing to allow greater regulation of the railroads a few decades before the latter companies. Yet, despite the differences in relative economic might, the regulatory contract in each of those industries was formed in the late nineteenth and early twentieth centuries while the Su-

100. JOYCE, *supra* note 96, at 12 (quoting JAMES KENT, COMMENTARIES ON AMERICAN LAW *458 (Little, Brown & Co., 14th ed. 1896)).

101. 223 U.S. 655, 669 (1912).

102. *Id.* at 669-70 (emphasis added).

103. *Id.* at 667-68.

preme Court vacillated on the definitions of three constitutional doctrines: the prohibition of a state to impair the obligation of contracts, the prohibition of government to take private property without just compensation, and the rise and fall of substantive due process. In the context of each of those doctrines the Court examined the extent to which the state could exercise its police power over a regulated utility.

By 1848 the Court recognized, in *West River Bridge v. Dix*, a state's power to commandeer—for just compensation—a toll bridge built by a private party subject to an exclusive franchise.¹⁰⁴ In 1795 Vermont granted an exclusive 100-year franchise to build and operate a toll bridge. In 1843 the local government took the bridge for public use and paid the bridge company \$4,000. Justice Peter V. Daniel wrote for the Court that the taking did not constitute an impermissible impairment of the bridge company's contract.¹⁰⁵

Fewer than twenty years later, the Court proclaimed the importance of franchise rights and the inviolability of contract, again in the context of a challenge to the holder of a bridge franchise. In 1865, in defending an exclusive bridge franchise from impairment, Justice David Davis delivered the Court's opinion in *The Binghamton Bridge*.¹⁰⁶ The opinion embodied the general economic ideology that pervaded judicial opinions on franchise regulation of that era and characterized the inviolability of contract as the keystone to the relationship between government and private enterprise:

The purposes to be attained are generally beyond the ability of individual enterprise, and can only be accomplished through the aid of associated wealth. This will not be risked unless privileges are given and securities furnished in an act of incorporation. The wants of the public are often so imperative that a duty is imposed on the Government to provide for them; and, as experience has proved that a State should not directly attempt to do this, it is necessary to confer on others the faculty of doing what the sovereign power is unwilling to undertake. The legislature, therefore, says to public-spirited citizens: "If you will embark, with your time, money, and skill, in an enterprise which will accommodate the public necessities, we will grant to you, for a limited period, or in perpetuity, privileges that will justify the expenditure of your money, and the employment of your time and skill." Such a grant is a contract, with mutual considerations, and jus-

104. 47 U.S. (6 How.) 507 (1848).

105. *Id.* at 533.

106. 70 U.S. (3 Wall.) 51 (1865).

tice and good policy alike require that the protection of the law should be assured to it.¹⁰⁷

That economic philosophy and respect for voluntary exchange typified many utility regulation cases of the period.

The protection against governmental takings of private property functioned as a complement to the prohibition of impairment of contractual obligations. During the nineteenth century, the protection of the Contracts Clause was the principle more often applied to cases of utility regulation.¹⁰⁸ The Takings Clause, however, would emerge as the primary protection against regulatory incursions by government. During the years spanned by *West River Bridge* and *The Binghamton Bridge*, the Court devised the doctrine of substantive due process. Although in 1887 the Court in *Munn v. Illinois* upheld a regulation of rates of grain elevators "affected with a public interest,"¹⁰⁹ by 1905 in *Lochner v. New York* the Court found "no reasonable foundation for holding" a statute limiting the number of hours that bakers may work in a week "to be necessary or appropriate as a health law."¹¹⁰ The Court began to rule upon the reasonableness of statutes, particularly those effecting economic regulation; that orientation probably affected the Court's view of utility regulation cases as well, including those decided under the Contracts Clause.

THE REGULATORY CONTRACT IN THE SUPREME COURT

The understanding of utility regulation as contract permeates a number of Supreme Court decisions from the late nineteenth and early twentieth centuries. Those decisions were usually unanimous and are striking for the sophistication with which they described in nontechnical terms the economic rationale for the regulatory contract and based their legal conclusions on such reasoning. Our purpose in discussing the following decisions by the Court is not to endorse the logic of particular legal doctrines, some of which the Court has abandoned since the *Lochner* era, but rather to show as a *factual* matter that in various kinds of cases predating the rise

107. *Id.* at 73.

108. U.S. CONST. art. I, § 10, cl. 2 ("No State shall . . . pass any . . . Law impairing the Obligation of Contracts").

109. 94 U.S. 113 (1877).

110. 198 U.S. 45, 58 (1905).

of the state regulatory commission the Court regarded the municipal franchise as an enforceable contract.

New Orleans Water Works

In 1885 the Court held unconstitutional, in *New Orleans Water Works Co. v. Rivers*, a local government's ordinance that infringed upon the exclusive rights that the state legislature granted a water company.¹¹¹ The Louisiana legislature in 1877 granted the New Orleans Water-Works Company the exclusive right to provide water to the city of New Orleans for fifty years. In 1882 the city council of New Orleans passed an ordinance to allow an individual to lay pipes to provide his New Orleans hotel with water. The Court upheld the exclusivity of the New Orleans Water-Works' franchise and, in a unanimous opinion by Justice John Marshall Harlan, reasoned:

The right to dig up and use the streets and alleys of New Orleans for the purpose of placing pipes and mains to supply the city and its inhabitants with water is a franchise belonging to the State, which she could grant to such persons or corporations, and upon such terms, as she deemed best for the public interests. And as the object to be attained was a public one, for which the State could make provision by legislative enactment, the grant of the franchise could be accompanied with such exclusive privileges to the grantee, in respect of the subject of the grant, as in the judgment of the legislative department would best promote the public health and the public comfort, or the protection of public and private property. Such was the nature of the plaintiff's grant, which, not being at the time prohibited by the constitution of the State, was a contract, the obligation of which cannot be impaired by subsequent legislation, or by a change in her organic law. It is as much a contract, within the meaning of the Constitution of the United States, as a grant to a private corporation for a valuable consideration, or in consideration of public services to be rendered by it, of the exclusive right to construct and maintain a railroad within certain lines and between given points, or a bridge over a navigable stream within a prescribed distance above and below a designated point.¹¹²

In the companion case, *New Orleans Gas Co. v. Louisiana Light Co.*, a unanimous Court, again speaking through Justice Harlan, recognized that a state may exercise its police power to protect the health, morals, and safety of its citizens, but the power to regulate is tempered by an inability

111. 115 U.S. 674 (1885).

112. *Id.* at 681.

to impair contractual obligations.¹¹³ On facts similar to those in *New Orleans Water Works*, the Court observed: "That the police power . . . is restricted . . . is further shown by those cases in which grants of exclusive privileges respecting public highways and bridges over navigable streams have been sustained as contracts, the obligations of which are fully protected against impairment by State enactments."¹¹⁴

Walla Walla Water

In *Walla Walla City v. Walla Walla Water Co.* the Court extended its defense of contract to a municipal franchise.¹¹⁵ In 1883 the legislature of Washington Territory incorporated the city of Walla Walla. One of its enumerated powers under the charter was the power to provide water for the city, as well as the right to permit the use of city streets for the purpose of laying pipes for furnishing such supply. Pursuant to its power, the city of Walla Walla by contract granted to the Walla Walla Water Company in 1887 the right to lay and maintain water mains and related infrastructure for twenty-five years. The water company accepted and complied with all conditions in the contract. In 1893, however, the city passed an ordinance to provide for the construction of a system of water works to supply the city with water. The question thus arose whether the federal court had jurisdiction to decide whether the city had unconstitutionally impaired the obligation of its franchise contract. On his way to concluding that the federal courts did indeed have jurisdiction, Justice Henry B. Brown wrote for a unanimous panel that "this court has too often decided for the rule to be now questioned, that the grant of a right to supply gas or water to a municipality and its inhabitants through pipes and mains laid in the streets, upon condition of the performance of its service by the grantee, is the grant of a franchise vested in the State, in consideration of the performance of a public service, and after performance by the grantee, is a contract protected by the Constitution of the United States against state legislation to impair it."¹¹⁶

113. 115 U.S. 650 (1885).

114. *Id.* at 661.

115. 172 U.S. 1 (1898).

116. *Id.* at 8-9. "It is true that in these cases the franchise was granted directly by the state legislature, but it is equally clear that such franchises may be bestowed upon corporations by the municipal authorities, provided the right to do so is given by their charters. State legislatures may not only exercise their sovereignty directly, but may delegate such portions of it to inferior legislative bodies as, in their judgment, is desirable for local purposes." *Id.*

Although the city's franchise did not confer a monopoly, Walla Walla Water's contract specifically stipulated that the city would not compete with the company. The city argued that the noncompete provision made the contract void as against public policy. But the Court rejected the argument and interpreted that provision, along with an eminent domain provision, as ancillary restraints that protected the franchisee's opportunity to recover the cost of its investment in infrastructure:

There was no attempt made to create a monopoly by granting an exclusive right to this company, and the agreement that the city would not erect water works of its own was accompanied, in section 8 of the contract, with a reservation of a right to take, condemn and pay for the water works of the company at any time during the existence of the contract. Taking sections 7 and 8 together, they amount simply to this: That if the city should desire to establish water works of its own it would do so by condemning the property of the company and making such changes in its plant or such additions thereto as it might deem desirable for the better supply of its inhabitants; but that it would not enter into a direct competition with the company during the life of the contract. As such competition would be almost necessarily ruinous to the company, it was little more than an agreement that the city would carry out the contract in good faith.¹¹⁷

The Court regarded the noncompete provision as "a natural incident to the main purpose of the contract,"¹¹⁸ without which a private company would not voluntarily make the substantial asset-specific investments required to provide water service:

In establishing a system of water works the company would necessarily incur a large expense in the construction of the power house and the laying of its pipes through the streets, and, as the life of the contract was limited to twenty-five years, it would naturally desire to protect itself from competition as far as possible, and would have a right to expect that at least the city would not itself enter into such competition. It is not to be supposed that the company would have entered upon this large undertaking in view of the possibility that, in one of the sudden changes of public opinion to which all municipalities are more or less subject, the city might resolve to enter the field itself—a field in which it undoubtedly would have become the master—and practically extinguish the rights it had already granted to the company.¹¹⁹

117. *Id.* at 17.

118. *Id.*

119. *Id.* at 17-18.

In short, the Court articulated in *Walla Walla Water* the same concern over contractual opportunism that emerged three-quarters of a century later as a guiding principle in the economic analysis of utility regulation.

Russell v. Sebastian

In *Russell v. Sebastian*, the Court, in 1914, reiterated that concern over contractual opportunism and specifically endorsed a public service corporation's expectation of a profitable rate of return on its investment.¹²⁰ Writing for a unanimous Court, Justice Charles Evans Hughes reasoned that a private enterprise accepted a franchise offer with the expectation to earn a profitable rate of return on the investments required to fulfill its obligations under the franchise contract.¹²¹ The Court viewed such an expectation to be inherent in the parties' bargained-for exchange. *Russell* held that a state constitutional amendment and subsequent municipal ordinances impaired contract rights vested in the Economic Gas Co. by a franchise grant entailed in section 19 of article XI of California's 1879 constitution, which provided:

In any city where there are no public works owned and controlled by the municipality for supplying the same with water or artificial light, any individual, or any company duly incorporated for such purpose, under and by authority of the laws of this state, shall, under the direction of the superintendent of streets, or other officer in control thereof, and under such general regulations as the municipality may prescribe, for damages and indemnity for damages, have the privilege of using the public streets and thoroughfares thereof, and of laying down pipes and conduits therein, and connections therewith, so far as may be necessary for introducing into and supplying such city and its inhabitants, either with gaslight, or other illuminating light, or with fresh water for domestic and all other purposes, upon the condition that the municipal government shall have the right to regulate the charges thereof.¹²²

Justice Hughes remarked upon the informal and spontaneous manner in which offer and acceptance of the regulatory contract would occur under such an ordinance:

120. 233 U.S. 195, 210 (1914).

121. *Id.* Justice Horace H. Lurton took no part in the decision.

122. *Id.* at 198-99. Economic Gas also claimed that the constitutional amendment and ordinance deprived the company of property without due process in violation of equal protection of the laws under the Fourteenth Amendment. *Id.* at 199-200. The Court did not reach that issue.

It is pointed out that the language of the provision was general both with respect to persons and to places; that it embraced all the cities in the State; and that *it did not provide for any formal or written acceptance of the offer*. But the lack of a requirement of an acceptance of a formal character did not preclude acceptance in fact. . . . [W]hen as to such a city the offer was accepted, the grant became as effective as if it had been made specially to the accepting individual or corporation.¹²³

Justice Hughes's reasoning sheds light on the current debate over the regulatory contract. In that debate, some who oppose compensating utilities for their stranded costs dispute the very existence of the regulatory contract because, they argue, no formal writing documents its formation.¹²⁴

In 1909 Economic Gas began its manufacture and distribution of gas to supply the city of Los Angeles with lighting under a claim of right based upon section 19.¹²⁵ In 1911 California amended that section of its constitution to allow municipalities to prescribe conditions and regulations upon such corporations.¹²⁶ In pursuance of the amendment, the city of Los Angeles adopted two ordinances. The first barred anyone from exercising any franchise or privilege to lay or maintain utility pipes without first obtaining a grant from the city,¹²⁷ and the second outlawed street excavation without written permission from the public works board.¹²⁸

The determinative issue in *Russell* was the nature and extent of the rights that Economic Gas acquired under section 19 of California's 1879 constitution upon accepting the franchise offer. The state contended that the scope of Economic Gas's acceptance, and hence the scope of its operations, were limited to the range of streets in use at the time of the 1911 constitutional amendment.¹²⁹ Economic Gas claimed that it would lose \$2,000 per month if the state were to confine the company's operations solely to the streets in use as of 1911.¹³⁰

For three reasons the Court concluded that Economic Gas had a contractual right to the larger service area that it believed its franchise entailed. First, the Court held that accepting the state's offer would oblige

123. *Id.* at 203 (emphasis added).

124. We discuss the related question of the voidability of the regulatory contract in our discussion of the Statute of Frauds in chapter 5.

125. 233 U.S. at 200.

126. *Id.* at 198-99.

127. *Id.* at 199.

128. *Id.*

129. *Id.* at 202.

130. *Id.* at 201.

the company to supply the city with light.¹³¹ That obligation, in turn, would require the company to make considerable investments to construct permanent reservoirs with suitable storage capacity, to build plants large enough to meet reasonably anticipated demands, and to lay conduits necessary for distribution.¹³² Second and more notably, the Court found that when an offer of a franchise entailed extensive investment by the franchisee, either explicitly or implicitly, the right of the franchisee to a chance of profit was inherent in the offer, and the chance of profit was essential to the efficacy of an enterprise.¹³³ Finally, the Court reasoned that because firms evaluated business ventures on the basis of calculations of future growth and expansion, a utility would necessarily expect that the city would open new streets and extend old ones over time—especially where the utility was obligated to extend service throughout the city as reasonable demands required.¹³⁴ Economic Gas's construction of facilities capable of supplying gas to a territory much larger than that supplied before the 1911 ordinance evidenced the company's future intentions; indeed, the company had invested \$100,000 more than would have been necessary to supply only the inhabitants reached by the pipes in 1911.¹³⁵ Hence, the Court concluded that the right to lay the pipes carrying the gas necessary to provide light to Los Angeles inhabitants was "absolutely essential to the undertaking"¹³⁶ and that the grant was therefore binding as an entirety and "not foot by foot, as pipes were laid."¹³⁷

Justice Hughes relied heavily on notions of detrimental reliance and investment-backed expectations. Such considerations underlay his emphatic rhetoric concerning contract formation:

When the voice of the State declares that it is bound if its offer is accepted, and the question simply is with respect to the scope of the obligation, we should be slow to conclude that only a revocable license was intended. Moreover the provision plainly contemplated the establishment of a plant devoted to the described public service and an assumption of the duty to perform that service. That the grant, resulting from an acceptance of the State's offer, constituted a contract, and vested in the accepting individual

131. *Id.* at 209.

132. *Id.* at 206.

133. *Id.* at 208.

134. *Id.* at 209.

135. *Id.* at 200.

136. *Id.*

137. *Id.* at 207-08.

or corporation a property right, protected by the Federal Constitution, is not open to dispute in view of the repeated decisions of this court.¹³⁸

Having shown that formation of the regulatory contract had occurred, Justice Hughes turned to interpreting the contract and emphasized that the Court would not permit rules of construction thereupon to suck the content from the agreement. After conceding the black-letter rule that "public grants are to be construed strictly in favor of the public" and that "ambiguities are to be resolved against the grantee," Justice Hughes emphasized that "this principle of construction does not deny to public offers a fair and reasonable interpretation, or justify the withholding of that which it satisfactorily appears the grant was intended to convey."¹³⁹ Instead, he insisted on giving "a practical, common-sense construction" to the regulatory contract.¹⁴⁰ That common-sense construction led Justice Hughes to emphasize the potential for stranded costs to arise if the state were to act opportunistically with respect to the investments that Economic Gas had made to perform the contract:

The breadth of the offer was commensurate with the requirements of the undertaking which was invited. The service to which the provision referred was a community service. It was the supply of a municipality—which had no municipal works—with water or light. This would involve, in the case of water-works, the securing of sources of supply, the provision of conduits for conveying the water to the municipality, and the permanent investment in the construction of reservoirs with suitable storage capacity; and, in the case of gas-works, the establishment of a manufacturing plant on a scale large enough to meet the demands that could reasonably be anticipated. *But water-works and gas-works constructed to furnish a municipality with water or light would, of course, be useless without distributing systems;* and the right of laying in the streets the mains needed to carry the water or gas to the inhabitants of the community was absolutely essential to the undertaking as a practical enterprise. This, the constitutional provision recognized. It was clearly designed to stop favoritism in granting such rights, not to withhold them. It is not to be supposed that it was expected that water-works and gas-works of the character required to supply cities would be erected without grants of franchises to use the streets for laying the necessary distributing pipes. . . . The scheme of the constitutional provision was not to make it impossible to secure such grants, or to restrict the street rights to be acquired, but, as already stated, to end the existing abuses by making these grants directly through the

138. *Id.* at 204.

139. *Id.* at 205.

140. *Id.*

constitution itself instead of permitting them to be made by the legislature or by municipalities acting under legislative authority.¹⁴¹

Justice Hughes rejected the proposition that “the investment in extensive plants—in the construction of reservoirs, and in the building of manufacturing works—was invited without any assurance that the laying of the distributing system could be completed or that it could even be extended far enough to afford any chance of profit.”¹⁴² Echoing the reasoning of economists more than half a century later, Justice Hughes concluded his opinion for the Court by once more underscoring the significance of investment as an act of contract formation: “The company, by its investment, had irrevocably committed itself to the undertaking and its acceptance of the offer of the right to lay its pipes, so far as necessary to serve the municipality, was complete.”¹⁴³

*Detroit Citizens’ Street Railway
and Other Contract Impairment Cases*

Other early decisions concerning the regulatory contract addressed the municipality’s power to reduce prices to uncompensatory levels. With

141. *Id.* at 206–07.

142. *Id.* at 208.

143. *Id.* at 210. Later the same year, Justice Hughes wrote the opinion for a unanimous Court in *New York Elec. Lines v. Empire City Subway Co.*, 235 U.S. 179 (1914), which posed the question of whether a franchise to use the streets of New York City to bury electrical lines constituted a contract and, if so, whether the contract had been unconstitutionally impaired. On the existence of the contract, Justice Hughes wrote:

These municipal consents are intended to afford the basis of enterprise with reciprocal advantages, and it would be virtually impossible to fulfil the manifest intent of the legislature and to secure the benefits expected to flow from the privileges conferred, if, in the initial stages of the enterprise when the necessary proceedings preliminary to the execution of the proposed work are being taken with due promptness, or when the work is under way, the municipal consent should be subject to revocation at any time by the authorities—not upon the ground that the contract had not been performed, or that any condition thereof, express or implied, had been broken, but because as yet no contract whatever had been made and there was nothing but a license which might be withdrawn at pleasure. Grants like the one under consideration are not nude pacts, but rest upon obligations expressly or impliedly assumed to carry on the undertaking to which they relate. They are made and received with the understanding that the recipient is protected by a contractual right from the moment the grant is accepted and during the course of performance as contemplated, as well as after that performance.

Id. at 193 (citations omitted).

apparent disregard for its holding in *Munn*, the Court in 1902 held unconstitutional, in *Detroit v. Detroit Citizens' Street Railway Co.*, a city ordinance attempting to reduce the rates of a street railway that had been fixed in the company's franchise.¹⁴⁴ The Detroit Citizens' Railway had operated pursuant to its franchise for several years when, in 1899, the Detroit city council enacted an ordinance to reduce the company's rates. Writing for a unanimous Court, Justice Rufus W. Peckham reasoned that a municipality, duly authorized by the state legislature, once having entered into a franchise contract with a public service corporation had its powers, "so far as altering the rates of fare or other matters properly involved in and being a part of the contract," suspended for the duration of the contract period.¹⁴⁵

The Court recognized that, as in the case of a contract between private parties, the rate of fare or price was a crucial element of the regulatory contract that could not be unilaterally altered:

The rate of fare is among the most material and important of the terms and conditions which might be imposed by the city in exchange for its consent to the laying of railroad tracks and the running of cars thereon through its streets. It would be a subject for grave consideration and conference between the parties, and when determined by mutual agreement, the rate would naturally be regarded as fixed until another rate was adopted by a like agreement.¹⁴⁶

Again, as in *Walla Walla Water* and *Russell v. Sebastian*, the Court's rationale for denying the city of Detroit the unilateral power to reduce price under the contract emphasized cost recovery, asset specificity, opportunism, and credible commitments:

It would hardly be credible that capitalists about to invest money in what was then a somewhat uncertain venture, while procuring the consent of the

144. 184 U.S. 368 (1902).

145. *Id.* at 383.

146. *Id.* at 384. The Court also elaborated on the need for bilateral agreement to modify the contract price: "The rate of fare having been fixed by positive agreement under the expressed legislative authority, the subject is not open to alteration thereafter by the common council alone, under the right to prescribe from time to time the rules and regulations for the running and operation of the road. Nor does the language of the ordinance, which provides that the rate of fare for one passenger shall not be more than five cents, give any right to the city to reduce it below the rate of five cents established by the company. It is a contract which gives the company the right to charge a rate of fare up to the sum of five cents for a single passenger, and leaves no power with the city to reduce it without the consent of the company." *Id.* at 389.

city to lay its rails and operate its road through the streets in language which as to the 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. It would rather seem that the language above used did not and was not intended to give the right to the common council to change at its pleasure from time to time those important and fundamental rights affecting the very existence and financial success of the company in the operation of its road, but that by the use of such language there was simply reserved to the city council the right from time to time to add to or alter those general regulations or rules for the proper, safe and efficient running of the cars, the character of service, the speed and number of cars and their hours of operation and matters of a like nature.¹⁴⁷

Thus, the Court well recognized by the turn of the twentieth century that key provisions in the regulatory contract existed to ensure cost recovery for specialized investments and to deter opportunism.

Moreover, in *Detroit Citizens' Street Railway* the Court clearly recognized that the franchise was a contract and that under the Constitution a state (and certainly a municipality) could not infringe upon the rights vested under the contract, especially with regard to allowable rates. The binding character of regulatory agreements respecting rates embodied in municipal ordinances was a rule that subsequent Supreme Court cases recognized as first being promulgated in *Detroit Citizens' Street Railway*.¹⁴⁸ By 1908, a more comprehensive restatement of that rule had become settled law: "The State may authorize one of its municipal corporations to establish by an inviolable contract the rates to be charged by a public service corporation (or natural person) for a definite term, not grossly unreasonable in point of time, and that the effect of such a contract is to suspend, during the life of the contract, the governmental power of fixing and regulating the rates."¹⁴⁹ One can trace the evolution of that articulation of the rule to a number of decisions following *Detroit Citizens' Street Railway*. In those decisions the Court also struck down city ordinances attempting to reduce the rates of fare charged by street railway

147. *Id.* at 385.

148. See *City of Cleveland v. Cleveland City Ry.*, 194 U.S. 517, 536 (1903).

149. *Home Tel. & Tel. Co. v. City of Los Angeles*, 211 U.S. 265, 273 (1908) (citing *Detroit v. Detroit Citizens' Street Ry.*, 184 U.S. 368, 382 (1902); *Vicksburg v. Vicksburg Waterworks Co.*, 206 U.S. 496, 508 (1907)). For a later case affirming the rule, see *St. Cloud Pub. Serv. Co. v. City of St. Cloud*, 265 U.S. 352, 355 (1924).

companies that were predetermined under the companies' original franchise contracts.¹⁵⁰

In *City of Cleveland v. Cleveland City Railway*, the Court unanimously held in 1904 that an 1898 Cleveland city ordinance seeking to decrease street railroad fares charged by Cleveland City Railway impaired the city's obligations under its franchise contract.¹⁵¹ In an opinion by Justice Edward D. White, the Court found that the contract obligations were embodied in two prior city ordinances enacted in 1885 and 1887. Accordingly, the Court stated that the contractual right to the higher rates of fare had vested in Cleveland City Railway because its predecessors in interest, with whom it was in privity of contract, had accepted the city's offer of building, maintaining, and operating street railways at rates specified in the 1885 and 1887 ordinances.¹⁵²

In 1910 the Court in *City of Minneapolis v. Minneapolis Street Railway Co.* unanimously held a 1907 Minneapolis ordinance to be unconstitutional on the grounds that it impaired contract rights secured by the Minneapolis Street Railway Co. through a 1875 city ordinance that the state legislature later ratified in 1879.¹⁵³ The 1875 ordinance, as ratified, secured to the company for a fifty-year period beginning in 1873 the contract right to charge five cents per passenger for one continuous trip. The 1907 ordinance, alternatively, required that the company sell six tickets for a quarter. Writing for the Court, Justice William R. Day found the 1907 ordinance to have violated the terms of "a previous and subsisting contract, prescribing the rates of fare to be charged by the company in the city of Minneapolis."¹⁵⁴ Justice Day held that "grants of the character of the one under consideration[], when embodying the terms of a contract," were "protected by the Federal Constitution from impairment by subsequent state legislation, and notwithstanding the principle of strict construction, whatever [was] plainly granted c[ould] not be taken from the parties entitled thereto by such legislative enactments."¹⁵⁵

150. See *Detroit v. Detroit Citizens' Street Ry.*, 184 U.S. 368 (1902); *Home Tel. & Tel. Co. v. City of Los Angeles*, 211 U.S. 265 (1908); *Vicksburg v. Vicksburg Waterworks Co.*, 206 U.S. 496 (1907); *City of Cleveland v. Cleveland City Ry.*, 194 U.S. 517 (1904); *City of Minneapolis v. Minneapolis Ry.*, 215 U.S. 417 (1909); *Milwaukee Elec. Ry. & Light Co. v. Railroad Comm'n of Wis.*, 238 U.S. 174 (1915).

151. *City of Cleveland v. Cleveland City Ry.*, 194 U.S. 517, 537 (1904). Justice Harlan took no part in the decision.

152. *Id.* at 534.

153. 215 U.S. 417, 436 (1910).

154. *Id.*

155. *Id.* at 427.

As it did in *Detroit Citizens' Street Railway*, the Court began its inquiry in other contract impairment cases by identifying the state statute empowering the municipal authority to contract with utilities such as street railway companies. In *Detroit Citizens' Street Railway* the contract was made pursuant to a state statute specifically requiring that rates of fare be established by agreement between the railway company and the municipality.¹⁵⁶ Although the Court did not question the competency of a state legislature to authorize a municipality to contract with a street railway company as to rates of fare, it nonetheless "conceded that clear authority from the legislature [was] needed to enable the city to make a contract or agreement like the ordinances in question, including rates of fare."¹⁵⁷ In *Cleveland City Railway* the Court found the statutory grant adequate because it conferred "comprehensive powers to contract with street railway companies with respect to terms and conditions upon which such roads might be constructed, operated, extended and consolidated."¹⁵⁸ In *Vicksburg v. Vicksburg Waterworks Co.*¹⁵⁹ the Court, speaking unanimously through Justice Day, recognized as adequate a grant of legislative powers to the municipality that on its face was unrestrictive.¹⁶⁰ The Court stated that "under a broad grant of power, conferring, without restriction or limitation, upon the city of Vicksburg the right to make a contract for a supply of water, it was within the right of the city council, in the exercise of this power, to make a binding contract, fixing a maximum rate at which water should be supplied to the inhabitants of the city for a limited term of years."¹⁶¹

In later cases, however, the Court looked for clear and unmistakable legislative authority empowering a municipality to enter into contracts delineating rates of fare.¹⁶² In *Home Telephone & Telegraph Co. v. City of Los Angeles*,¹⁶³ Justice William H. Moody wrote for a unanimous Court in 1908 that such contracts were tantamount to the surrender of the governmental power to regulate rates of fare and as such were very grave acts requiring the close scrutiny of both the surrender itself and the authority to

156. *Detroit Citizens' Street Ry.*, 184 U.S. at 385.

157. *Id.* at 382.

158. *Cleveland City Ry.*, 194 U.S. at 534.

159. 206 U.S. 496 (1907).

160. *Id.* at 515.

161. *Id.*

162. *Home Tel. & Tel. Co. v. City of Los Angeles*, 211 U.S. 265, 273 (1908); *Milwaukee Elec. Ry. v. Railroad Comm'n of Wis.*, 238 U.S. 174, 180 (1915); *City of Paducah v. Paducah Ry. Co.*, 261 U.S. 267, 272 (1923).

163. 211 U.S. 265 (1908).

make it.¹⁶⁴ Justice Moody emphasized that “[n]o other body than the supreme legislature ha[d] the authority to make such a surrender, unless the authority [was] clearly delegated to it by the supreme legislature.”¹⁶⁵ He reasoned that because contracts stipulating rates of fare to be charged had “the effect of extinguishing pro tanto an undoubted power of government” to regulate such rates, their existence and the authority to make them must be clear and unmistakable.¹⁶⁶ Otherwise, the Court cautioned that “all doubts must be resolved in favor of the continuance of the power” to regulate.¹⁶⁷ That ruling may have contributed to the rapid shift from municipal regulation to state public utility commissions, a development supported by the utilities themselves, that occurred over the next fourteen years.

In *Home Telephone*, the Court explained that the pertinent California state legislation gave the Los Angeles city council the power only “to regulate telephone service and the use of telephones within the city, . . . and to fix and determine the charges for telephones and telephone service and connections” through ordinances.¹⁶⁸ That provision, the Court said, gave the municipality “ample authority” to exercise the governmental power of regulating charges, but was not adequate to vest in the municipality the authority to enter into a contract to abandon the governmental power itself.¹⁶⁹ The Court stated that the legislation “sp[oke] in words appropriate to describe the authority to exercise the governmental power, but entirely unfitted to describe the authority to contract. It authorized command, but not agreement.”¹⁷⁰ Nonetheless, *Home Telephone* recognized that a legislature could authorize agreement as to rates to be made by ordinance. But such an ordinance, it noted, could not be an ordinance “to fix and determine the charges.”¹⁷¹ Rather, it had to be an ordinance to agree upon the charges.

In contract impairment cases, the Court, after identifying the relevant empowering state statutes, would then reason that an empowered municipal council, when entering into contracts, “was exercising a portion of the authority of the State, as an agency of the State.”¹⁷² For example, in *Cleveland City Railway*, the Court reasoned that in passing the 1885 and

164. *Id.* at 273.

165. *Id.*

166. *Id.*

167. *Id.*

168. *Id.* at 275.

169. *Id.*

170. *Id.*

171. *Id.*

172. *Cleveland City Railway*, 194 U.S. at 534.

1887 ordinances the municipal council of Cleveland was exercising the power to contract as an agent of the state of Ohio.¹⁷³ Thus, it held that those ordinances embodied contractual obligations binding the council and the Cleveland City Railroad with respect to the rates of fare to be charged on street railway lines affected by the ordinances.¹⁷⁴ In *Detroit Citizens' Street Railway*, the Court implicitly recognized the agency relationship with regard to the power to contract and stated that, when a state statute authorized a municipality to contract with a street railway company, the municipality's power to alter "the rates of fare or other matters properly involved in and being a part of the contract, was suspended for the period of the running of the contract."¹⁷⁵

A municipality, as an agent of the state, when duly empowered by clear and unmistakable legislative authority, could enter into an agreement with a public service corporation affixing rates for a specified period of time. Generally, a franchise offer extended through a municipal ordinance became a binding contract when a utility accepted the offer. The Court in *Detroit Citizens' Street Railway* approvingly cited *City Railway Co. v. Citizens' Street Railroad Co.*¹⁷⁶ for the proposition that once a railway company accepted an offer for the use of city streets, entailed in a municipal ordinance, in consideration for its building and operating a street railway and built and operated the railway, then a contract was formed "which the State was not at liberty to impair during its continuance."¹⁷⁷

The manner of acceptance does not appear to have played a dispositive role in those cases. In at least one case, the Court, in ascertaining whether an agreement binding both the municipality and the public service corporation was intended, found the fact that the ordinance had required a written acceptance especially significant.¹⁷⁸ On the other hand, in *Russell v. Sebastian* the Court said that "the lack of a requirement of an acceptance of a formal character did not preclude acceptance in fact."¹⁷⁹ The Court added that when a utility began preparations for distributing service and changed its position "beyond recall," acceptance was valid.¹⁸⁰ Moreover, as noted

173. *Id.*

174. *Id.* In actuality, the ordinances were accepted by the railroad's predecessors in interest.

175. *Detroit Citizens' Street Ry.*, 184 U.S. at 382.

176. 166 U.S. 557 (1897).

177. *Detroit Citizens' Street Ry.*, 184 U.S. at 387 (citing *City Ry. Co.*, 166 U.S. at 417-18).

178. *Cleveland City Railway*, 194 U.S. at 536.

179. *Russell v. Sebastian*, 233 U.S. at 203.

180. *Id.* at 208.

earlier, the Court found that the grant resulting from the company's acceptance of the state's offer of a franchise constituted a contract, thereupon vesting the company with a property right protected by the Constitution.¹⁸¹

Beginning with *Detroit Citizens' Street Railway*, the Supreme Court held that municipal ordinances engendered contractual obligations regarding rates when "the provisions as to rates of fare were fixed in ordinances for a stated time and no reservation was made of a right to alter [them]."¹⁸² The Court deemed the specific limitation of the time in which rates were to be fixed to be of particular significance.¹⁸³ The Court reasoned that through such "ordinances existing rights of the corporations were surrendered, benefits were conferred upon the public, and obligations were imposed upon the corporations to continue those benefits during the stipulated time."¹⁸⁴ The Court therefore saw "no escape from the conclusion, that [such] ordinances were intended to be agreements binding upon both parties definitely fixing the rates of fare which might be thereafter charged."¹⁸⁵

THE EVOLUTION FROM MUNICIPAL FRANCHISES TO STATE PUBLIC UTILITIES COMMISSIONS

As the contract infringement cases indicate, by the late nineteenth century state legislatures had delegated to municipalities the power to award franchises. But, as one would expect of relational contracting, the utility franchises themselves evolved over time, ultimately creating administrative boards that were the precursors to the state public utilities commissions. Early franchises often were vague and left discretion to the utility company. City governments tried to stipulate more precise conditions in the franchise agreement, but changing economic and technological circumstances demanded greater flexibility, and the precise franchises grew to be unworkable. According to George L. Priest, the solution was to eliminate the restrictive details and introduce an administrative board, often having representatives from both the utility and the local government.¹⁸⁶ From those administrative boards grew the state regulatory commissions, most of which came into existence between 1907 and 1922.¹⁸⁷ Those state com-

181. *Id.* at 204.

182. *Cleveland City Railway*, 194 U.S. at 536.

183. *Id.*

184. *Id.*

185. *Id.*

186. Priest, *supra* note 94, at 321.

187. "State regulatory commissions were first created in the late 1880s (in Massachu-

missions gradually assumed the powers of the individual municipal franchise authorities in most states. That transition raised the question of whether state public utilities commissions had the right to supersede the regulatory contract between municipal franchise authorities and public service corporations and to regulate the rates and services of individual utilities directly.

Presumably utilities would not have agreed to switch from municipal franchising to state public utility regulation unless they expected that change to produce net benefits for them. From Priest's analysis, it would appear that the utilities did not incur greater costs under state regulation in terms of diminished property protections. The prevailing understanding of the *Contract and Takings Clauses* and of *substantive due process* from 1907 through 1922 would have afforded the public utility security against state interference with the terms of its preexisting municipal franchise. At the same time, state regulation likely offered a utility three kinds of benefits over municipal franchising.

First, the horizontal expansion of electrical and telephony networks implied that those networks likely crossed municipal boundaries. Such horizontal expansion presumably reflected the exploitation of economies of scale or of network externalities related to increased subscribership.¹⁸⁸ But that horizontal expansion also implied that electrical and telephony networks would face the new problem of allocating common costs to different municipal jurisdictions for purposes of setting reasonable rates. The complexity of that task could be avoided if state regulators instead set rates over a larger geographic area. For example, Felix Frankfurter and Henry M. Hart, Jr., wrote in 1934 that because the utilities' "activities were confined in the beginning to individual communities, regulation by localities sufficed," but that "the extension of the area of service by the utilities" and "new forms of analogous public services, like pipe lines and electric power, patently beyond the reach of any but state authority" contributed to the creation of state public utilities commissions.¹⁸⁹

setts) but then were inaugurated with sudden uniformity in the decade and a half following 1907. By 1922, electric regulatory commissions had been introduced in thirty-seven of the forty-eight states and gas commissions in eighteen of the twenty large states." *Id.* at 296. For the date of formation for each commission, see BARNES, *supra* note 40, at 206 chart 5.

188. For a discussion of the horizontal integration of local exchange companies during that period, see MILTON L. MUELLER, JR., *UNIVERSAL SERVICE: COMPETITION, INTERCONNECTION, AND MONOPOLY IN THE MAKING OF AMERICAN TELECOMMUNICATIONS* (MIT Press & AEI Press 1997).

189. Frankfurter & Hart, *supra* note 96, at 105.

Second, as electric utilities and local exchange carriers entered into horizontal mergers, they would be subject to regulation by multiple cities. Alternatively, a state public utility commission offered the public utility "one-stop shopping" on matters of regulation. Thus, the advent of state public utilities commissions may have been a way to minimize the transaction costs of utility regulation once efficient production mandated that the regulated firms merge across geographic markets within a state.

Third, as Geoffrey P. Miller has speculated, utilities may have favored the creation of state commissions as a way to escape city politicians who demanded bribes or less felonious side payments.¹⁹⁰ Certainly, some scholars have argued that the process by which public utilities received their franchises was politically corrupt.¹⁹¹ The city was in a superior bargaining position in the sense that it controlled access to public rights-of-way, which offered the cost-minimizing route for the utility to lay down its fixed infrastructure. City officials could hold up utility investors by denying them access to those rights-of-way. Moreover, once the utility had sunk costs to build its infrastructure, it would be vulnerable to attempts by the city to set prices at uncompensatory levels or to deny renewal of the franchise in a manner that might strand the cost of undepreciated facilities.¹⁹² The *Home Telephone* decision in 1908 may have eroded the credi-

190. Miller, *supra* note 94, at 327.

191. E.g., FORREST McDONALD, *INSULL* 86 (University of Chicago Press 1962). The concern over municipal corruption also gives rise to the argument that the regulatory contract was void *ab initio*, such that there would be no basis to complain if regulators were to repudiate the contract today. That argument is problematic. It would be self-serving and circular for a state regulatory commission to argue decades later that the regulatory contract is void because corrupt city officials who originally granted the franchise demanded and received side payments as a condition of the grant. If such an argument withstood scrutiny, one party's opportunism in the formation of the contract would subsequently provide that party (or its successor in interest) the avenue of escape from its obligations under the contract.

Alternatively, the argument might be that, in return for its payment of bribes demanded by city officials, the utility enjoyed lax rate regulation that enabled the utility to earn monopoly rents. Cf. David Gabel, *Competition in a Network Industry: The Telephone Industry, 1894-1910*, 54 J. ECON. HIST. 543, 562 (1994) (telephone company executive convicted in 1907 of bribing city supervisors to refuse to franchise a competitor). If such corrupt practices were efficacious for the utility, however, it would have no incentive to support replacing municipal regulation with regulation by a state public utilities commission. We return to such issues of defective regulation and regulatory capture in chapter 13, when discussing the libertarian argument against permitting the recovery of stranded costs under the regulatory contract, and in chapter 14, when discussing the limiting principles for such recovery.

192. David Gabel notes:

bility of municipal commitments to forbear from opportunistic rate reductions. At a minimum, state commissions offered the utility a new set of regulators.

CONTRACTING WITH THE SOVEREIGN

Despite the ample evidence in Supreme Court decisions of the contractual nature of municipal regulation of public utilities, at least some legal scholars in the early twentieth century adhered to a more statist view that a franchise awarded to a public utility was "a particular privilege which d[is] not belong to an individual or a corporation as of right, but [was] conferred by a sovereign or government upon, and vested in, individuals or a corporation."¹⁹³ Thus, in their view, "[i]t [was] essential that the franchise be a grant from a sovereign authority, and . . . none [was] valid unless derived from a law of the state."¹⁹⁴ That reasoning conflates agency and contract formation. It is one thing to require that the municipality have a clear agency relationship with the state when committing itself to forbear from its exercise of regulatory prerogatives under its delegated police powers. But that requirement in no way implies that a municipal franchise lawfully awarded to a public utility is a gratuity—a mere revocable license—rather than an enforceable contract. It is completely under-

[A] telephone franchise was highly valued, intangible property. City officials in the early twentieth century, unlike those in the 1870s, were not going to give this right away without imposing conditions. When franchises were issued to the Independents [non-AT&T companies], therefore, they typically included stipulations that set maximum rates, required free telephone service to the city government, free use of the telephone poles and underground conduits for fire and police lines, and royalty fees.

Id. at 561–62. Gabel argues that such conditions were barriers to entry because municipalities did not demand them of the Bell System when its "franchises had been granted when telephony was new and its commercial value uncertain." *Id.* But Gabel's own assessment is also consistent with the hypothesis that, in terms of concessions given to municipalities, the incumbent LEC and its subsequent competitors paid the same *risk-adjusted* price for their respective franchises. David F. Weiman & Richard C. Levin, *Preying for Monopoly? The Case of Southern Bell Telephone Company, 1894–1912*, 102 J. POL. ECON. 103, 121 (1994), agree with Gabel, yet they note, evidently without recognition of the contradiction, that by 1907 the Southern Bell Telephone Company, a successful predator in their assessment, was itself offering similar "concessions to municipal officials and agencies."

193. Harold F. Kumm, *The Legal Relations of City and State with Reference to Public Utility Regulation*, 6 MINN. L. REV. 32, 140 (1922) (citing 3 JOHN F. DILLON, COMMENTARIES ON THE LAW OF MUNICIPAL CORPORATIONS 1905 (Little, Brown & Co., 5th ed. 1906)).

194. *See id.* at 141.

standable that the Court would rule that no grant of a municipal franchise was valid unless sanctioned by "clear and unmistakable" state legislation empowering the municipality to enter into such a contract with the public service corporation.¹⁹⁵ Hence, the franchise contract between a utility and a municipality was in effect a contract between the utility and the state with the municipality acting as the agent of the state. Any municipal authority in that matter "[was] purely derivative and must [have] flow[ed] from the legislative fountain."¹⁹⁶ It was the authority of the municipality to bind the state to a contract—not whether valid municipal franchises were enforceable contracts—that was subject to dispute in particular cases.

Ultimately, a municipal franchise grant, when accepted and acted upon by the utility, became a contract within the meaning of the Constitution. The state public utilities commission's power to alter a franchise contract between a municipality and utility, and the duties and obligations contained in the contract, were limited only by the extent of the state's police powers. When state public utilities commissions began to take over for municipal franchise authorities, the law was well settled that:

[T]he interdiction of statutes impairing the obligation of contracts does not prevent the State from exercising such powers as are vested in it for the promotion of the common weal, or are necessary for the general good of the public, This power, which in its various ramifications is known as the police power, is an exercise of the sovereign right of the Government to protect the lives, health, morals, comfort and general welfare of the people, and is paramount to any rights under contracts between individuals.¹⁹⁷

The right to regulate the rates that utilities charged fell under the state's police powers and therefore was not dependent upon its being reserved in the regulatory contract. Nonetheless, the Court carved out an important exception to the general rule that the state's police power may not be alienated or suspended through contract. The exception applied "where the public utility and the state, or a municipality acting as an agent of the state, ha[d] entered into a contract for a term of years, wherein it [was] expressly provided that the rates there established shall not be lowered during the period of agreement."¹⁹⁸ The Court had consistently held that the effect of such a contract was to suspend the power of the state to regu-

195. *Home Telephone*, 211 U.S. at 273; *Milwaukee Electric Railway*, 238 U.S. at 180.

196. Kumm, *supra* note 193, at 141.

197. *Manigault v. Springs*, 199 U.S. 473, 480 (1905).

198. Kumm, *supra* note 193, at 145.

late rates for the term of the contract so as not to affect adversely the public service corporation.¹⁹⁹

If the contract complied with those conditions, a court would uphold it. During the term of the agreement, the public utilities commission was held powerless to alter the rates to the detriment of the utility. In *Milwaukee Electric Railway & Light Company v. Railroad Commission of Wisconsin*,²⁰⁰ for example, Justice William R. Day wrote for a unanimous Court in 1915:

The fixing of rates which may be charged by public service corporations, of the character here involved, is a legislative function of the State, and while the right to make contracts which shall prevent the State during a given period from exercising this important power has been recognized and approved by judicial decisions, it has been uniformly held in this court that the renunciation of a sovereign right of this character must be evidenced by terms so clear and unequivocal as to permit of no doubt as to their proper construction. This proposition has been so frequently declared by decisions of this court as to render unnecessary any reference to the many cases in which the doctrine has been affirmed.²⁰¹

The Milwaukee Electric Railway sought to enjoin the Wisconsin Railroad Commission from enforcing its order reducing the rate of fares that the railway could charge. The rates were below levels previously fixed by a Milwaukee ordinance enacted in 1900. The company contended that under the provisions of the ordinance, it had obtained the right to charge five cents per ticket or to sell tickets in packages of twenty-five for one dollar and packages of six for twenty-five cents until December 31, 1934. In complaints filed by the city of Milwaukee with the state railroad commission in 1906 and 1908, the city had sought to reduce those rates. The complaints resulted in the railroad commission's ordering the company to discontinue its rate of one dollar for twenty-five tickets and to replace it with a package of thirteen tickets for fifty cents.

The Court did not enjoin the state railroad commission's order holding that no irrevocable contract was created by the 1900 ordinance.²⁰² Thus, it found that the rate reduction, as mandated by the state railroad commission's order, had not impaired the obligation of contract between the city

199. *Detroit Citizens' Street Ry.*, 184 U.S. at 383; *Home Telephone*, 211 U.S. at 273; *Cleveland City Ry.*, 194 U.S. at 536; *Vicksburg Waterworks*, 206 U.S. at 508.

200. 238 U.S. 174 (1915).

201. *Id.* at 180.

202. *Id.* at 184.

and the railway. The Court reasoned that the state statute empowering Milwaukee to grant the franchise to the Milwaukee Electric Railway did not "unequivocally grant[] to municipalities the power to deprive the legislature of the right to exercise the rate-making function in the future," which Justice Day called "an acknowledged function of great public importance."²⁰³ *Milwaukee Electric Railway* approvingly cited Justice Moody's opinion in *Home Telephone* stating that the general powers of a municipality were not sufficient to surrender a power of the government by contract unless such a surrender was clearly and unmistakably contemplated by the state legislature.²⁰⁴

In 1929 the Court, citing Justice Moody's opinion in *Home Telephone*, reaffirmed in *Railroad Commission of California v. Los Angeles Railway Corp.* the rule that a state's grant of authority to a municipality wherein it surrenders its power to regulate rates cannot be "inferred in the absence of a plain expression of purpose to that end."²⁰⁵ It added that "[t]he delegation of authority to give up or suspend the power of rate regulation will not be found more readily than would an intention on the part of the State to authorize the bargaining away of its power to tax."²⁰⁶ Hence, the Court cautioned that all doubt should be resolved in favor of the state's authority to prescribe rates.²⁰⁷

The facts of the case are as follows. The Los Angeles Railway Corp. operated a street railway system and buses in the city of Los Angeles and in parts of the Los Angeles county. The company was operating under the authority of 102 franchises granted by the city and the county from 1886 to 1928. Those franchises permitted the company to use various city streets for its cars. Seventy-three of the franchises granted between 1890 and 1918 and covering some 113 miles provided that "the rate of fare . . . shall not exceed five cents."²⁰⁸ Another eighteen covering twelve miles that were granted between 1920 and 1928 provided that "the rate of fare . . . shall not be more than five cents . . . except upon a showing before a competent authority having jurisdiction over rates of fare that such greater charge is justified."²⁰⁹ The other franchise grants were silent as to the rate of fare. In 1926 the company petitioned the state railroad commission for a basic fare rate increase from five to seven cents. The commission denied

203. *Id.*

204. *Id.* at 180.

205. 280 U.S. 145, 152 (1929) (Butler, J.).

206. *Id.*

207. *Id.*

208. *Id.* at 150.

209. *Id.*

the company's petition in 1928. The company sued in federal court seeking an injunction restraining the commission from enforcing the five-cent rate and also an order adjudicating the rates as being confiscatory.

The Supreme Court affirmed the lower court's decree and permanently enjoined the commission from enforcing those rates on the grounds that they would not permit the company to earn a reasonable return on its investments.²¹⁰ Although *Los Angeles Railway* upheld the district court's injunction, it did not address the issue of whether the rates were confiscatory because the appellants had not preserved the issue for appeal.²¹¹ The Court identified the "sole controversy" in the case as being whether the railway company was contractually bound to charge rates denoted in its franchise agreement with the city.²¹² In following the precedent of *Detroit Citizens' Street Railway* and its progeny, the Court held that "[i]t [was] possible for a State to authorize a municipal corporation by agreement to establish public service rates and thereby to suspend for a term of years not grossly excessive the exertion of governmental power by legislative action to fix just compensation to be paid for service furnished by public utilities."²¹³ The Court added that "where a city, empowered by the State so to do, makes a contract with a public utility fixing the amounts to be paid for its service, the latter may not be required to serve for less even if the specified rates are unreasonably high. And, in such case, the courts may not relieve the utility from its obligation to serve at the agreed rates however inadequate they may prove to be."²¹⁴

The Court, upon reviewing all pertinent California state court decisions and construing all relevant state statutes, concluded that the city of Los Angeles was not empowered by the state to enter into rate contracts with the railway company.²¹⁵ Nonetheless, the Court in *Los Angeles Railway* assumed that the municipal franchise contracts had established the existing fares and held that the state commission's exercise of its jurisdiction in the case had abrogated those contracts.²¹⁶ The Court found such an abrogation when the commission, upon successive applications of the Los Angeles

210. *Id.* at 158.

211. *Id.*

212. *Id.* at 151.

213. *Id.* at 151-52 (citing *Detroit Citizens' Street Ry.*, 184 U.S. at 382; *Vicksburg Waterworks*, 206 U.S. at 508, 515; *Public Serv. Co. v. St. Cloud*, 265 U.S. 352, 355 (1924)).

214. *Id.* at 152 (citing *Detroit Citizens' Street Ry.*, 184 U.S. at 389; *Public Service Co.*, 265 U.S. at 355).

215. *Id.* at 156.

216. *Id.*

Street Railway Co., reviewed the rate structure as imposed by the municipal franchises. In 1921, after the required hearings, the commission found the existing fares insufficient and ordered a small rate increase. The rate increase never materialized because the railway opted not to put it into effect. Upon a later petition by the railway in 1926, a commission report and order in 1928 found the existing rates sufficient and therefore reasonable and just. Hence, the company was legally required to continue observing the five-cent rate.

The Court explained that a state had the power, upon the application of a street railway company, to terminate rates of fare fixed by contract between the company and a municipal corporation of the state. It reasoned that under article XII, section 23, of the California Constitution, as amended in 1914, and the Public Utilities Act of 1915, the state railroad commission had exclusive power to regulate rates.²¹⁷ And section 27 of the act gave to street railway companies the right to charge more than five cents upon showing the commission that the higher charge was justified. The Court noted that the legislation had made no distinction between rates established by franchise contracts and those otherwise fixed.²¹⁸ Hence, the Court concluded that the five-cent street railway fare, even if it had been established by franchise contract, could be increased by the commission upon its finding that the rate was unjust or insufficient.²¹⁹ The commission had the statutory authority to establish the just and reasonable rate thereafter to be observed.²²⁰

THE REGULATORY CONTRACT IN TEXAS

We have seen that the many Supreme Court decisions rest on the understanding that an enforceable contract defined the relationship between a public utility and a franchising municipality. Similar decisions exist in the state supreme courts and are too numerous to survey. Nonetheless, one state, Texas, is particularly instructive because it was among the last to transfer the regulation of public utilities from municipalities to a state commission.²²¹ Six decades after the widespread move to state public utilities commissions began, the Texas Supreme Court was still interpret-

217. *Id.* at 157.

218. *Id.*

219. *Id.* at 157-58.

220. *Id.*

221. See Jack Hopper, *A Legislative History of the Texas Public Utility Regulatory Act of 1975*, 28 BAYLOR L. REV. 777 (1976); Dan Pleitz & Robert Randolph Little, *Municipalities and the Public Utility Regulatory Act*, 28 BAYLOR L. REV. 978 (1976).

ing the contractual rights of public utilities under the municipal franchise agreements that regulated their conduct.

In *Texas Power & Light Co. v. City of Garland*, the Supreme Court of Texas in 1968 permanently enjoined Garland, Texas, from requiring a franchised electric utility to obtain a permit as a condition precedent to the extension of its line to a new customer.²²² In 1915 the city entered into a fifty-year nonexclusive franchise with the Texas Power & Light Co. that gave the utility the right to serve all inhabitants of the city. In 1949 the city, which itself had entered the electricity business, passed an ordinance that authorized it to deny the utility a permit to extend service to new customers. The Supreme Court of Texas found that and other provisions to violate the franchise contract:

[The ordinances] authorizing the denial of a permit by reason of competitive interference with the City's electrical service, are aimed directly at the advancement of the City's economic and proprietary interests. Under these provisions the City urges that it possesses the power to amend the franchise and that its power is broad enough to require City Council approval as a prerequisite to expansion by the Company. In other words, the City contends that it may wholly curb any expansion under the non-exclusive franchise held by the Company. Obviously these provisions have for their purpose the elimination of the Company as a competitor beyond its existing lines. They accord preferments ousting the Company from exercising rights in an area granted by its franchise. These things the City cannot do. Essential franchise rights cannot be taken under a pretense of regulation designed to gain a competitive advantage to the City acting in its proprietary capacity.²²³

Such reasoning would hold even more forcefully if the city had violated the incumbent utility's franchise agreement in the name of assisting the competitive expansion of a *private* company, which would more closely resemble the facts of mandatory retail wheeling.

A close reading of the case strongly suggests that the opportunistic behavior by the city had the effect of impairing the incumbent utility's ability to recover its costs. The city wished to exclude the company from serving a set of apartments in an undeveloped area. Given geographically averaged rates, the economies of density that presumably would characterize service to the apartment buildings would have made those new customers incrementally more profitable than the average customer already

222. 431 S.W.2d 511 (1968).

223. *Id.* at 518.

served by the utility, and thus the new customers would have made a positive contribution to utility's revenue requirement. The city, in other words, was attempting to cream skim to the detriment of the franchised utility. The Supreme Court of Texas could "see no reason to allow the municipally owned corporation a competitive advantage over the privately owned corporation in this situation."²²⁴

Finally, the Court ruled that a "1964 ordinance which extended the 1915 franchise [until 1990] did not impliedly incorporate the 1949 ordinance as additional contractual limitations upon the Company's franchise."²²⁵ The city could not impair the utility's contractual rights in that manner: "The 1949 ordinance could not have been enacted as a valid contractual limitation upon the 1915 franchise. The 1949 ordinance, aimed at controlling activities outside the City's police power, was an invalid impairment of the original franchise ordinance when it was enacted; therefore, it cannot now be impliedly incorporated into the valid franchise ordinance passed in 1964."²²⁶ The Court analyzed the case in explicitly contractual terms, noting that "there is a difference between an extension of an existing contract and the making of a new one."²²⁷ In short, the Supreme Court of Texas approached the case with as much skepticism as it would any instance of overt opportunism by one party to a long-term commercial contract:

The franchise was a broad grant to operate on the present and future streets of Garland. The City's contention is that the franchise by implication was limited to areas in Garland where the Company was then located, and without the right to expand. The conflict between the express terms of the grant and the claimed implications by the City, taken with the history and invalidity of the ordinance at the time it was passed, is so sharp that we must reject the contention the ordinance was impliedly incorporated as a part of the contract.²²⁸

In that respect the decision in *Texas Power & Light* continued the view of the Supreme Court of Texas in earlier cases involving utility franchisees that the franchise agreement was a contract. In *Texas v. Central Power & Light Co.*, the same court considered an antitrust case brought by the state attorney general: "The question to be decided is whether or not the provisions of the contract whereby the city bound itself not to erect a municipal

224. *Id.* at 519.

225. *Id.*

226. *Id.*

227. *Id.* at 520.

228. *Id.*

power plant for a period of ten years created a 'trust' in violation of" the state antitrust statute.²²⁹ The court concluded that it was not necessary to *decide the question, and it did so on a rationale that implied that the court did not want to upset the original bargain voluntarily struck between the municipality and the utility*: "The State would not be entitled to cancellation of the agreement because it was made by the City in part for its benefit, and the City is not a party to this suit. The City would be a necessary party to a suit to cancel an agreement made by it for its own benefit."²³⁰ Thus, a municipality could not rely upon state intervention to release the municipality from a franchise contract into which it voluntarily entered with an investor-owned utility.

WINSTAR AND THE UNMISTAKABILITY
OF THE REGULATORY CONTRACT

The Supreme Court's 1996 decision in *United States v. Winstar Corporation*, 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.²³¹ Perhaps for that reason, public utilities commissions have been quick to assert that *Winstar* is irrelevant to the restructuring of the regulated network industries.²³² It is not. To appreciate *Winstar's* relevance to the regulatory contract, it is necessary first to review the essential facts of the case.

229. 139 Tex. 51, 52, 161 S.W.2d 766, 766 (1942).

230. 139 Tex. at 56, 161 S.W.2d at 768.

231. 116 S. Ct. 2432 (1996). For a critique of our analysis of the relevance of *Winstar* to the regulatory contract, 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. (forthcoming 1997).

232. 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, DR 96-150 Order No. 22.514, 175 P.U.R.4th 193 (N.H. Pub. Utils. Comm'n Feb. 28, 1997) (quoting *Winstar*, 116 S. Ct. at 2448). *But see* Electric Utility Industry Restructuring, Dkt. No. 95-462 (Maine Pub. Utils. Comm'n July 19, 1996) ("While not directly applicable, . . . *United States v. Winstar Corp.*, suggests, at least, that government should act responsibly in changing the 'rules of the game.'" (citation omitted)).

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 1989 (FIRREA).²³³ 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 encouraging 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 David H. Souter, John Paul Stevens, Sandra Day O'Connor, and Stephen G. 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.²³⁴ Justices Antonin Scalia, Anthony M. Kennedy, and Clarence Thomas did not accept that distinction between *injunctive relief* and damages but nonetheless found that the

233. Pub. L. No. 101-73, 103 Stat. 183.

234. 116 S. Ct. at 2458 (Souter, Stevens, O'Connor, Breyer, J.J., plurality).

particular contracts at issue established that the government had unmistakably agreed to indemnify the thrifts.²³⁵ Chief Justice William H. Rehnquist dissented in an opinion joined by Justice Ruth Bader Ginsburg.²³⁶

Writing for the majority, 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."²³⁷ 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 ability to make contracts, which we have held to be 'the essence of sovereignty itself.'"²³⁸ 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 for private individuals." . . . This approach is unsurprising, for in practical terms it ensures that the government is able to obtain needed goods and services from parties who might otherwise, quite rightly, be unwilling to undertake the risk of government contracting.²³⁹

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 is 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*

235. *Id.* at 2476 (Scalia, Kennedy, Thomas, J.J., concurring).

236. *Id.* at 2479 (Rehnquist, C.J., Ginsburg, J., dissenting).

237. *Id.* at 2459.

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

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

*world of regulated industries, where the risk that legal change will prevent the bargained-for performance is always lurking in the shadows.*²⁴⁰

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 the 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.”²⁴¹ 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 local exchange carrier, 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 that change. Such a rule describes the situation in which an electric utility or local exchange carrier 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.”²⁴² As we saw earlier in this chapter, the same reasoning about contractual intent permeates the Court’s interpretations of the regulatory contract in the late nineteenth and early twentieth centuries. Not surprisingly, in *Winstar* Justice Souter²⁴³—and Justice Breyer in his concurrence²⁴⁴—relied upon those decisions construing the regulatory contract.

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

241. *Id.* at 2460.

242. *Id.* at 2472.

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

244. *Id.* at 2472–73 (Breyer, J., concurring) (citing *The Binghamton Bridge*, 70 U.S. (3

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.”²⁴⁵

In his concurrence, 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.²⁴⁶ He thought that the unmistakability doctrine “has little if any independent legal force beyond what would be dictated by normal principles of contract interpretation.”²⁴⁷ In Justice Scalia’s view the doctrine “is simply a rule of presumed (or implied-in-fact) intent.”²⁴⁸ He then offered a stark presumption of contract interpretation. Whereas Justice Souter feared that the government 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.²⁴⁹

Wall.) at 74; *Russell v. Sebastian*, 233 U.S. 195, 205 (1914); *Detroit v. Detroit Citizens’ Street Ry.*, 184 U.S. 368, 384 (1902)).

245. *Id.* at 2449 (Souter, J., plurality).

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

247. *Id.*

248. *Id.*

249. *Id.* (emphasis in original).

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."²⁵⁰ In reasoning reminiscent of the Court's early interpretations of regulatory contracts in cases such as *The Binghamton Bridge*,²⁵¹ *Walla Walla Water*,²⁵² *Russell v. Sebastian*,²⁵³ and *Detroit Citizens' Street Railway*,²⁵⁴ 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 reasonably must be viewed as a *sine qua non* of their assent becomes illusory."²⁵⁵ 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."²⁵⁶ The unmistakability doctrine does not require a private party to demand "the Government's promise to keep its promise."²⁵⁷ 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."²⁵⁸

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

250. *Id.*

251. 70 U.S. (3 Wall.) 51, 73 (1866).

252. *Walla Walla City v. Walla Walla Water Co.*, 172 U.S. 1, 17-18 (1898).

253. 233 U.S. 195, 206-07 (1914).

254. *Detroit v. Detroit Citizens' Street Ry.*, 184 U.S. 368, 385 (1902).

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

256. *Id.* (*emphasis in original*).

257. *Id.* at 2478.

258. *Id.* at 2477-78.

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.

CONCLUSION

Powerful efficiency arguments demonstrate why one would expect the regulatory contract to have evolved. The regulatory contract contains three essential terms—price regulation, entry regulation, and the obligation to serve—that simultaneously constrained the private exercise of market power and ensured that the utility would have a reasonable opportunity to recover the economic costs of the long-lived, nonsalvageable investments that it made to serve its customers. The theoretical economic arguments for the existence of the regulatory contract comport with observed fact, for many court decisions from the late nineteenth and early twentieth centuries described and interpreted the utility's franchise in explicitly contractual terms.

Takings and the Property of the Regulated Utility

THE SUPREME COURT has placed takings cases into three categories. In declining order of judicial solicitude given the property owner, the categories are *physical invasions of property*, *confiscatory public utility rates*, and *regulatory takings*.¹ Breach of the regulatory contract does not fit automatically into any one of those categories because, being unprecedented, it necessarily is a case of first impression under the Takings Clause. That is true even with respect to the precedents addressing public utility regulation. Although arguments can be made for and against recovery of stranded costs, ultimately the Supreme Court (and its counterpart in other nations) will have to rely on first principles of legal and economic theory to decide whether to recognize a deregulatory taking as an event necessitating the state's payment of just compensation. Those principles, we argue here, support such payment. We then examine the Court's reasoning under each of its three doctrinal branches of takings jurisprudence to determine the extent to which a deregulatory taking can be analogized to cases decided under those doctrines. We conclude that under all three branches of existing takings jurisprudence the regulator's abrogation of the regulatory contract is a compensable confiscation of the property of the regulated firm.

1. See Richard A. Epstein, *Takings: Of Property Common and Private*, 64 U. CHI. L. REV. 21 (1997).

ECONOMIC RATIONALES
FOR PROPERTY PROTECTIONS

It is difficult to imagine a market economy without legal protections for private property. The definition and enforcement of property rights are the legal foundation of a market economy. The economic functions of property rights are several.

*Completeness, Exclusivity, and Transferability
As Prerequisites of Allocative Efficiency*

Clearly defined property rights are necessary for the exchange of goods and services between individuals. Market exchange cannot take place in the absence of complete, exclusive, and transferable property rights. Before one can transfer ownership of a resource in a market transaction, there must be a meeting of the minds over what bundle of rights is being bought and sold. Even immediate transactions require a clear definition of the buyer's exclusive ownership of a good and the ability to transfer that ownership to the buyer. Property rights provide the common understanding between buyer and seller and thus make exchange possible.² Economic analysis demonstrates that market exchange allocates resources to their highest-value use. Property rights that are well-defined are necessary for the economy to achieve an efficient allocation of resources.

Exclusivity and Voluntary Exchange

Property rights help to ensure that market exchange is voluntary. Even if property rights to goods were complete and exclusive, transferability is required for prices to emerge and to enable the market to allocate goods to the highest-value user. Property rights protect individuals from confiscation of property by individuals, companies, or the government. The Supreme Court emphasized in *Dolan v. City of Tigard*, as it had in earlier takings cases, that the "right to exclude others is 'one of the most essential sticks in the bundle of rights that are commonly characterized as property.'"³ The force of that observation, of

2. *E.g.*, RICHARD A. POSNER, *ECONOMIC ANALYSIS OF LAW* 33 (Little, Brown & Co., 4th ed. 1992).

3. 512 U.S. 374, 393 (1994) (quoting *Kaiser Aetna v. United States*, 444 U.S. 164, 176 (1979)).

course, is in no way limited to real property. Any productive activity requires an investment of labor, capital, and other resources, as well as some delay, before one can reap the fruits of those investments.

Incentives for Investment

Property rights are essential for production because they protect individuals and companies that invest resources in productive activities. That is so because property rights guarantee that the investor owns the fruits of his efforts and expenditures. Noting that "[a]ll this has been well known for hundreds of years," Judge Richard A. Posner observes that "without property rights there is no incentive to incur these costs because there is no reasonable assured reward for incurring them."⁴ Thus, property rights are the foundation of dynamic allocative efficiency as well as static allocative efficiency.

Without protection of property there would be a reduction in incentives to invest, because there would be an increased risk that others would appropriate the returns to the investment. The classic example is the farmer planting crops in anticipation of reaping the harvest. Those who confiscate property or the productive returns from investment of resources are freeriding on the efforts of others. Free riders create economic inefficiencies because they do not take account of the full costs associated with their behavior.

Similarly, the conservation of natural resources represents an investment in natural resources by leaving mineral resources in the ground for future use or by letting renewable resources such as fish and forests appreciate in value through growth.⁵ If an individual does not have ownership of the resource, he is deprived of the incentive to refrain from current consumption. The resource will, therefore, be depleted at a faster rate than is economically efficient. That result is equivalent to underinvestment in the resource. In the absence of complete and exclusive property rights, the well-known "tragedy of the commons" emerges: Free-riding individuals compete to deplete a scarce resource, rather than make efficient use of the resource and invest in its further development.⁶

4. POSNER, *supra* note 2, at 32 (citing 2 WILLIAM BLACKSTONE, COMMENTARIES ON THE LAWS OF ENGLAND 4, 7 (1766)).

5. See, e.g., ESSAYS IN THE ECONOMICS OF RENEWABLE RESOURCES (Leonard J. Mirman & Daniel F. Spulber eds., Elsevier-North Holland Publishing Co. 1982).

6. Garrett Hardin, *The Tragedy of the Commons*, 162 SCIENCE 1243 (1968).

The incentive for investment has direct implications for capital markets. Investors in corporations purchase shares to obtain the residual claims on the company's returns—that is, the after-tax profits of the company net of payments to debtholders. Without property protection of returns to equity, investors similarly would have a reduced incentive to invest in stock, which would significantly complicate the raising of funds through financial markets.

THE JUDICIAL RATIONALE
FOR THE TAKINGS CLAUSE

If the institution of property is so salubrious, then it would follow that the uncompensated confiscation of property by the government would be harmful indeed. One would therefore expect the Supreme Court to reiterate the preceding arguments concerning the economic functions of property when answering, in the course of reaching their decisions, the question, Why does the Takings Clause exist? Several lines of reasoning have impressed the Court.

*Prevention of Wasteful
Public Consumption of Resources*

The Court emphasized in *First English Evangelical Lutheran Church v. County of Los Angeles* that the Takings Clause “makes clear that it is designed not to limit the governmental interference with property rights per se, but rather to secure compensation in the event of otherwise proper interference amounting to a taking.”⁷ To an economist, the obvious purpose of that rule is to ensure that the government uses property efficiently by being required to pay its opportunity cost.

The Court has evidenced some discomfort with the notion that the government should be constrained to internalize all the costs that its regulatory decisions impose on others. The Court stated in *Andrus v. Allard*:

Government regulation—by definition—involves the adjustment of rights for the public good. Often this adjustment curtails some potential for the use or economic exploitation of private property. To require compensation in all such circumstances would effectively compel the government to regulate by purchase.⁸

7. 482 U.S. 304, 315 (1987) (emphasis in original).

8. 444 U.S. at 65; accord, *Penn Cent. Transp. Co. v. New York City*, 438 U.S. 104, 124 (1978); *Pennsylvania Coal Co. v. Mahon*, 260 U.S. 393, 413 (1922).

That is an embarrassing admission for the Court to make. It would seem that the government, like everyone else, would like to get something for nothing. A government that had to pay its own way would be more circumspect about announcing policies that impose costs on private parties, even though those policies are believed to benefit the public as a whole.

The Transaction Costs of Compensating Private Parties for Changes in Government Policies

There is a more charitable reading that one can give to the Court's statements of aversion to requiring the payment of just compensation in every case of government regulation. In one of the most famous passages in any takings case, Justice Oliver Wendell Holmes observed in *Pennsylvania Coal Co. v. Mahon*: "Government hardly could go on if to some extent values incident to property could not be diminished without paying for every such change in the general law."⁹ To be sure, regulation affects the value of every business subject to its jurisdiction, and an attempt to compensate for every diminution, however slight, in "values incident to property" would require enormous transaction costs. Consequently, it is efficient that not all uncompensated regulatory changes are deemed to give rise to takings. But that concern about economizing on the costs of compensating diffuse, de minimis diminutions in property values does not describe the situation facing regulated utilities in network industries now undergoing the transformation to competition. The diminution in property values in those industries is large and concentrated among few companies.

Prevention of Free Riding

The limits on government takings do not merely help to ensure economic efficiency in the allocation of resources and development of property through investment. They also prevent the government itself from free-riding on the efforts of individuals. A taking is to be regarded as an exceptional occurrence where public use of the property would increase wealth by being more productive than an alternative use and where there is a severe market failure that prevents the consensual transfer of the property.¹⁰

9. *Id.*

10. This can take the form of holdouts such as the case when the last property owner of a group of properties necessary to effectuate the public use asks for compensation in

*Prevention of Disproportionate Burden from
Changes in Government Policies*

The Court emphasized in *Armstrong v. United States* that the Takings Clause serves "to bar Government from forcing some people alone to bear public burdens which, in all fairness and justice, should be borne by the public as a whole."¹¹ An economic interpretation of that standard is that it is equivalent to what William J. Baumol has called the *Pareto improvement criterion*, according to which a policy action improves social welfare and therefore may be undertaken if some individuals are made better off and no individuals are made worse off.¹² That criterion rests on consent and unanimity and thus is consistent with voluntary exchange.

Furthermore, if the government failed to compensate for its confiscations of property, the power of eminent domain (as well as the police power, which is at issue in the regulatory takings cases) could become a tool for nothing more than income redistribution, rather than a means to create public goods. The uncompensated confiscation of property (or the uncompensated diminution of property value through exercise of

excess of the alternative use or market value of his single piece of property. *Id.*

11. 364 U.S. 40, 49 (1960). The enunciation of that principle has become boilerplate in the Court's subsequent takings cases. *See, e.g., Penn Central*, 438 U.S. at 123; *Webb's Fabulous Pharmacies, Inc. v. Beckwith*, 449 U.S. 155, 163 (1980); *Agins v. Tiburon*, 447 U.S. 255, 260 (1980); *First English*, 482 U.S. at 318-19; *Pennell v. City of San Jose*, 485 U.S. 1, 9 (1988); *Dolan*, 512 U.S. at 384. In 1994 Judge Jay Plager of the Federal Circuit expressed the principle as follows:

The question at issue here is, when the Government fulfills its obligation to preserve and protect the public interest, may the cost of obtaining that public benefit fall solely upon the affected property owner, or is it to be shared by the community at large. In the final analysis the answer to that question is one of fundamental public policy. It calls for balancing the legitimate claims of the society to constrain individual actions that threaten the larger community, on the one side, and, on the other, the rights of the individual and our commitment to private property as a bulwark for the protection of those rights. It requires us to decide which collective rights are to be obtained at collective cost, in order better to preserve collectively the rights of the individual.

Loveladies Harbor, Inc. v. United States, 28 F.3d 1171, 1175 (Fed. Cir. 1994) (footnote omitted). For an early articulation of the principle, see *Monongahela Navigation Co. v. United States*, 148 U.S. 312, 325 (1893).

12. WILLIAM J. BAUMOL, *SUPERFAIRNESS: APPLICATIONS AND THEORY* 7-9, 30-37 (MIT Press 1986).

the police power) could become a means to fund government policies in a less transparent, less accountable, off-budget manner.

REGULATORY TAKINGS AND THE DESTRUCTION OF
THE INVESTMENT-BACKED EXPECTATIONS OF
THE INCUMBENT REGULATED FIRM

Regulatory takings occupy an uneasy place in economic theory and in American constitutional law. The least-protected class of government confiscation of property, regulatory takings have produced an analytical model in the Supreme Court that is only occasionally hospitable to the plight of landowners subjected to land use or environmental restrictions. Nonetheless, the straightforward application of that same model to the state's repudiation of the regulatory contract produces, even at that lowest level of judicial solicitude, powerful protection for the property of the regulated firm.

*Weaknesses in the Kaldor-Hicks Compensation Criterion
Implicit in the Law of Regulatory Takings*

In the typical regulatory takings case the state, relying on the Supreme Court's 1887 decision in *Mugler v. Kansas* and its lineage,¹³ asserts that it is exercising its police powers in a legitimate fashion such that no compensation need be paid for the resulting diminution in the value of private property.¹⁴ That reasoning implicitly embraces a notion of social welfare that lawyers, economists, and philosophers have subsequently called "Kaldor-Hicks compensation" or "potential Pareto superiority."¹⁵ Strict Pareto efficiency would require the winners from a policy change to use some of their gains to compensate the losers. The requirement that winners pay actual compensation to losers would ensure that the state would undertake only Pareto-efficient policies—that is, only policies that would improve the welfare of at least one person without reducing the welfare of any other person. Faced with the prospect that actual compensation would entail prohibitively high transaction costs and thus limit the discretionary powers of the state to regulate, Nicholas Kaldor proposed in 1939 the criterion of potential Pareto superiority,

13. 123 U.S. 623 (1887).

14. See, e.g., *Lucas v. South Carolina Coastal Council*, 505 U.S. 1003, 1022 (1992).

15. See POSNER, *supra* note 2, at 13–14; WILLIAM A. FISCHER, *REGULATORY TAKINGS: LAW, ECONOMICS, AND POLITICS* 68 (Harvard University Press 1995); JULES L. COLEMAN, *MARKETS, MORALS, AND THE LAW* 81–86 (Cambridge University Press 1988).

under which a policy that would be Pareto superior with the payment of compensation is defended as welfare-enhancing even if winners fail to compensate losers.¹⁶

Kaldor-Hicks compensation was in perfect synchronicity with the metamorphosis of American constitutional law during the New Deal, a transformation that curtailed protections of contract and property and gave the central government virtually unlimited regulatory powers over economic activity.¹⁷ But the construct created several difficulties for the Takings Clause. First, losses associated with policy changes are true opportunity costs. When they are not compensated, policy change (which is to say, regulation) is overconsumed relative to the level of regulation that would be demanded under a constitutional standard that required actual compensation for Pareto-efficient policy moves.

Second, the Kaldor-Hicks standard is naïve about the public choice aspects of regulation. A principal benefit of requiring the payment of compensation to the losers under regulatory change is to remove their political opposition to Pareto-superior government policies. If property owners know that their losses from regulation will go uncompensated, potential losers will consume their resources in resisting Pareto-improving policies and force potential winners to consume their resources in defending such policies. Consequently, the magnitude of the net benefits to society from such policies will fall.¹⁸

Third, it is not always the case that the transaction costs of identifying and compensating losers are so prohibitively high that no attempt

16. Nicholas Kaldor, *Welfare Propositions of Economics and Interpersonal Comparisons of Utility*, 49 *ECON. J.* 549 (1939); see also John R. Hicks, *Foundations of Welfare Economics*, 49 *ECON. J.* 696 (1939). A related contemporaneous article is Tibor Scitovsky, *A Note on Welfare Propositions in Economics*, 9 *REV. ECON. STUD.* 77 (1941). See also E. J. MISHAN, *INTRODUCTION TO NORMATIVE ECONOMICS* 303-14 (Oxford University Press 1981).

17. Although that metamorphosis is most closely associated with the year 1937 (see *West Coast Hotel Co. v. Parrish*, 300 U.S. 379 (1937)); *NLRB v. Jones & Laughlin Steel Corp.*, 301 U.S. 1 (1937)), the process can be thought to have spanned nearly a decade. By 1937, the Court had already repudiated the Contract Clause in *Home Building & Loan Ass'n v. Blaisdell*, 290 U.S. 398 (1934). The crown jewel of the Court's new jurisprudence, footnote 4 of *United States v. Carolene Prods.*, 304 U.S. 144 (1938), came a year later. And *Wickard v. Filburn*, 317 U.S. 111 (1942), eliminated any practical constraint on the scope of the federal commerce power, a development that stood unchecked for more than a half century, until *United States v. Lopez*, 115 S. Ct. 1624 (1995).

18. The result will be reminiscent of the well-recognized dissipation of monopoly rents by firms competing to achieve a monopoly. See Richard A. Posner, *The Social Costs of Monopoly and Regulation*, 83 *J. POL. ECON.* 807 (1975).

should be made to pay compensation. The transaction costs of paying compensation depend in part on how diffusely the loss is spread across the population of property owners. The losses from some regulatory restrictions on the use of property are highly concentrated. If given adequate notice by the state of its pending regulatory change, potential losers who will have concentrated losses can be relied upon to identify themselves.¹⁹ Thus, in the case of concentrated losses—the only kind of takings case that ever gets litigated as a practical matter—the Kaldor-Hicks orientation of the current regulatory takings jurisprudence is likely to violate the principle that the Court announced in *Armstrong* and has reaffirmed many times since—that a small segment of the population should not disproportionately bear public burdens.²⁰

Fourth, and most important as a matter of economic theory and constitutional principle, the Kaldor-Hicks criterion fails to put either the winners or the losers to an actual test of their willingness to pay and their willingness to accept, respectively. Do the winners' benefits really exceed the amount that they would be willing to pay? At the same time, would the notional compensation of the Kaldor-Hicks criterion really have been acceptable to the losers? Neither party to that hypothetical bargain actually reveals his preferences in the manner that routinely occurs under voluntary exchange. Furthermore, the government presumably is the entity making the determination of whether that hypothetical bargain would take place. So, if the government's interest is to expand its size by issuing more regulations, it will have an incentive to find that the hypothetical transaction would occur. That is not to say that the Kaldor-Hicks criterion will be used solely to expand the scope of government. That same criterion, based on evaluating net benefits without regard to redistribution of income from winners to losers, underlies the use of cost-benefit analysis to evaluate regulation and other public policies, often in the name of reducing the extent of

19. A counterargument in favor of no payment of compensation is that the certainty that losers will receive compensation for regulatory changes will induce moral hazard on the part of property owners. See Lawrence E. Blume, Daniel L. Rubinfeld & Perry Shapiro, *The Taking of Land: When Should Compensation Be Paid?*, 99 Q.J. ECON. 71 (1984). The empirical substantiality of such moral hazard is open to question, however, particularly in relation to the moral hazard likely to arise from more explicit forms of government insurance. Which, for example, is more likely to induce risk taking on the part of property owners along the South Carolina coast—the availability of federal disaster relief for hurricane damage or the requirement that the state pay compensation for environmental regulations that it imposes?

20. 364 U.S. at 49.

government regulation. Again, a proper use of cost-benefit analysis should include the actual payment of compensation if takings occur.

*Existing Legal Criteria Concerning
Regulatory Takings*

The law of regulatory takings has descended from Justice Holmes's "general rule" announced in *Pennsylvania Coal* in 1922, a rule most notable for its utter lack of guidance: "while property may be regulated to a certain extent, if regulation goes too far it will be recognized as a taking."²¹ For half a century the Court gave little guidance as to what "too far" meant. In 1978 Justice William J. Brennan, Jr., writing for the Court in *Penn Central Transportation Co. v. New York City*, finally attempted to provide such guidance: A regulation constitutes a taking if it denies the property owner "economically viable use" of that property, which is to be determined by examining the following three factors: (1) the "character of the governmental action," (2) the "economic impact of the regulation on the claimant," and (3) the "extent to which the regulation has interfered with distinct investment-backed expectations."²² The Court has reiterated that three-part test in subsequent decisions.²³

Scholars have criticized even *Penn Central's* three-part test for being so vague as to allow inconsistent outcomes and for lacking any indication of the relative weight to be accorded each of those three factors.²⁴ Although we do not share those scholars' criticisms of the importance of "investment-backed expectations" as one of the relevant factors for the Court to consider, our principal purpose here is not to articulate the "optimal" legal test for regulatory takings. Rather our purpose is to show that the Court's existing legal standard for regulatory takings is even more likely to indicate a need for compensation in the case of breach of the regulatory contract than in the case of burdensome land-use restrictions, which spawned the rule.

21. 260 U.S. at 415. For an incisive analysis of the decision, see Robert Brauneis, "The Foundation of Our 'Regulatory Takings' Jurisprudence": *The Myth and Meaning of Justice Holmes's Opinion in Pennsylvania Coal Co. v. Mahon*, 106 YALE L.J. 613 (1996).

22. *Penn Central*, 438 U.S. 104, 124 (1978).

23. E.g., *Kaiser Aetna v. United States*, 444 U.S. 164, 175 (1979); *PruneYard Shopping Center v. Robins*, 447 U.S. 74, 83 (1980).

24. FISCHER, *supra* note 15, at 51; Andrea L. Peterson, *The Takings Clause: In Search of Underlying Principles*, 77 CAL. L. REV. 1299, 78 CAL. L. REV. 53 (1989).

The Character of Governmental Action. In a thoughtful opinion for the Federal Circuit in *Loveladies Harbor, Inc. v. United States*, Judge Jay Plager described this first of the three *Penn Central* criteria as requiring a court to scrutinize “the purpose and importance of the public interest reflected in the regulatory imposition” and “to balance the liberty interest of the private property owner against the Government’s need to protect the public interest through imposition of the restraint.”²⁵ That analysis sounds identical to the means-end scrutiny of economic regulation that courts employ under the Due Process Clauses of the Fifth and Fourteenth Amendments. Implicitly, that means-end analysis takes place at the level of minimum-rationality review. As Judge Plager noted, the Court has considered whether “the avowed need of the Government” to protect some “interest of the public” is indeed “a legitimate interest”²⁶ and whether “the method of attaining the sought-after goal was reasonably designed to attain it.”²⁷

Presumably, if the regulation were deficient in either respect (a tall order under minimum rationality), then the regulation would not be a valid exercise of the police power, and compensation would be due the property owner. At the same time, of course, the regulation in question would be invalid on due process grounds. If, as is more likely, the regulation survived review under that minimum rationality standard, the takings analysis would proceed to consideration of *Penn Central*’s other two criteria.

The Economic Impact of the Regulation on the Claimant. This second criterion can be seen as a requirement to minimize the transaction costs of takings claims, along the lines of Justice Holmes’s remark in *Pennsylvania Coal* that government “hardly could go on” if made to compensate every diminution in value arising from its regulation.²⁸ Below a certain cutoff, it would seem, an uncompensated diminution in property value arising from a change in regulation should not consume the resources of the state (as defendant) and the courts. That reasoning is analogous to the requirement that a party plead a minimum amount in controversy to establish jurisdiction.

25. 28 F.3d 1171, 1176 (Fed. Cir. 1994).

26. *Id.* (citing *Ruckelshaus v. Monsanto Co.*, 467 U.S. 986, 1014 (1984)).

27. *Id.* (citing *Nollan v. California Coastal Comm’n*, 483 U.S. 825, 837 (1987)).

28. 260 U.S. at 413. In *Loveladies*, 28 F.3d at 1176-77, Judge Plager imputed just such a meaning to Justice Holmes’s remark.

Interestingly, Judge Plager reasoned in *Loveladies* that *Penn Central*'s overriding requirement—that the payment of compensation for a regulatory taking was conditioned on the property owner's showing that the government had denied him "economically viable use" of his property—was just another way of expressing the idea embodied in *Penn Central*'s second criterion concerning the economic impact of the regulation on the claimant.²⁹ In Judge Plager's words, both articulations expressed the same "threshold requirement that the plaintiff show a serious financial loss from the regulatory imposition."³⁰

Interference with Distinct Investment-Backed Expectations. The remaining criterion in the *Penn Central* test—interference with distinct investment-backed expectations—does all the heavy lifting in a regulatory takings case. If the government has used its police power in a reasonable manner for a legitimate purpose, and if the regulation has diminished the value of private property by a nontrivial amount, then the remaining question is whether the property owner himself has absorbed that diminution or whether he already contracted to accept the diminution if and when it occurred. Again, Judge Plager's formulation in *Loveladies* is particularly lucid.

The requirement that the property owner establish his distinct investment-backed expectations is "a way of limiting takings recoveries to owners who could demonstrate that they bought their property in reliance on a state of affairs that did not include the challenged regulatory regime."³¹ Judge Plager elaborated: "In legal terms, the owner who bought with knowledge of the restraint could be said to have no reliance interest, or to have assumed the risk of any economic loss. In economic terms, it could be said that the market had already discounted for the restraint, so that a purchaser could not show a loss in his investment attributable to it."³²

To that analysis of risk bearing, one can add a related point: The requirement is a means to impose a system of falsifiability on what could otherwise become an inherently subjective inquiry. Without the requirement that the property owner objectively prove, through evidence of investment, that he detrimentally relied on the challenged

29. *Id.* at 1177 (citing *Agins v. Tiburon*, 447 U.S. 255, 260 (1980); *Nollan*, 483 U.S. at 834).

30. *Id.*

31. *Id.*

32. *Id.*

regulatory regime, how could a court really know whether the regulation at issue had diminished *that person's* wealth at all? Specious claims of lost property value would otherwise inundate the state. That further explanation comports with the Court's observation in *Ruckelshaus v. Monsanto Co.* that "[a] 'reasonable investment backed expectation' must be more than 'a unilateral expectation or an abstract need,'"³³ and its statement in *Usery v. Turner Elkhorn Mining Co.* that "legislation readjusting rights and burdens is not unlawful solely because it upsets otherwise settled expectations."³⁴ A private party may have expectations that are, objectively speaking, unreasonable. The Court, not surprisingly, has delivered more guidance on what are *not* reasonable investment-backed expectations than on what are.³⁵

Consider the case of changes in American foreign policy with respect to Libya that impaired an American citizen's right to continue receiving the benefits of a contract, signed in 1985, to perform work in Libya for ten years.³⁶ Such changes in policy did not effect a regulatory taking. The Federal Circuit found in *Chang v. United States* that the American citizen had been put on notice—by constitutional provisions, statutes, and court decisions concerning Congress's power to regulate foreign commerce—that U.S. foreign policy could change unexpectedly at any time without giving rise to a right of compensation for contracts thereby impaired.³⁷ Moreover, it would have been objectively unreasonable to expect that the employment contract would be secure from impairment in light of "the overwhelming public knowledge of strained and deteriorating relations between the two countries existing at the time when the plaintiffs entered their contracts."³⁸ Whether one has investment-backed expectations thus depends on "the foreseeability of the risk of disruption" of the legal relationships upon which the contract critically depends.³⁹ The private party must have had a "reasonable expectation" at the time the contract was entered that it "would

33. 467 U.S. 986, 1005-06 (1984) (quoting *Webb's Fabulous Pharmacies v. Beckwith*, 449 U.S. 155, 161 (1980)), quoted in *Loveladies*, 28 F.3d at 1177.

34. 428 U.S. 1, 16 (1976).

35. *Concrete Pipe & Prods. of Cal., Inc. v. Construction Laborers Pension Trust for S. Cal.*, 508 U.S. 602, 645 (1993); *Connolly v. Pension Benefit Guaranty Corp.*, 475 U.S. 211, 226-27 (1986); see also *Golden Pac. Bancorp v. United States*, 15 F.3d 1066 (Fed. Cir. 1994).

36. *Chang v. United States*, 859 F.2d 893 (Fed. Cir. 1988).

37. *Id.* at 897.

38. *Id.*

39. *Id.*

proceed without possible hindrance" arising from changes in government policy.⁴⁰

*The Investment-Backed Expectations
of a Public Utility*

If analyzed as a regulatory taking, the problem of stranded costs is far more compelling than the typical case of land-use restrictions. The regulatory contract is a detailed contract that imposes obligations on the utility, its customers, and the regulatory authority. Moreover, the regulatory contract is subject to executive, legislative, and judicial oversight. The formality and continuity of the contract and its oversight reinforce the conclusion that it is reasonable for a public utility to expect that the regulator will discharge its duties under the contract and that the contract is an agreement that may be enforced against the regulator in court.

Furthermore, the overriding purpose of the regulatory contract is to induce the public utility to make specialized investments. By accepting its franchise, the regulated utility undertakes an obligation to serve—that is, to provide service to any and all customers in its service territory. The utility further agrees to abide by a host of regulations that determine its prices, product offerings, investments, and accounting procedures. Most important, the utility must make long-term investments in highly specialized, immovable facilities. The regulatory contract exists to create the institutional structure of incentives and credible assurances for the public utility to undertake the substantial capital costs required to perform its service obligations. Without those credible assurances, a public utility would not have been willing to incur capital costs to build the facilities needed to satisfy regulatory obligations to serve—including notably the provision of universal service at a uniform price, regardless of incremental cost.

PHYSICAL INVASION
OF NETWORK FACILITIES

In contrast to regulatory takings, government policies that effect physical invasions of property elicit the greatest judicial protection of private property. A physical invasion of property compelled by the state gives rise to an absolute right of compensation.

40. *Id.*

The Loretto Decision

The leading decision on takings arising from physical invasion of property is the Supreme Court's 1982 decision in *Loretto v. Teleprompter Manhattan CATV Corp.*, which defended that rule even in the case of "a minor but permanent physical occupation of an owner's property authorized by government."⁴¹ The Court announced that "when the 'character of the governmental action,' is a permanent physical occupation of property, our cases uniformly have found a taking to the extent of the occupation, without regard to whether the action achieves an important public benefit or has only minimal economic impact on the owner."⁴²

At issue in *Loretto* was a New York statute that required a landlord to permit a cable television (CATV) company to install its CATV facilities upon her property, subject to payment of no greater than "reasonable" compensation set by a state commission. Exclusively franchised to build the CATV system within certain parts of Manhattan, Teleprompter wired Ms. Loretto's five-story apartment building, for which the commission deemed her to be entitled to a one-time payment of one dollar. The motivation for the statute is clear: Before enactment of the statute, Teleprompter routinely paid a property owner 5 percent of the gross revenues received from having access to his property.⁴³ The statute gave Teleprompter a way to pay a lower price for such access.

Teleprompter's physical invasion of Ms. Loretto's building was minor and consisted of a cable "slightly less than one-half inch in diameter and of approximately 30 feet in length along . . . the roof top," two directional taps on the front and rear of the roof that were four-inch cubes, "two large silver boxes along the roof cables," and the screws, nails, and bolts used to attach those various pieces of infrastructure to the building.⁴⁴ Plainly, what motivated Ms. Loretto was not the obtrusiveness of Teleprompter's physical occupation of her property, but rather her opportunity cost (in terms of forgoing a 5 percent share of CATV subscription revenues generated by her tenants) upon being compelled to grant access to her property essentially for free.

41. 458 U.S. 419, 421 (1982).

42. *Id.* at 434-35 (quoting *Penn Central*, 438 U.S. at 124) (citation omitted).

43. *Id.* at 423.

44. *Id.* at 422. Actually, two buildings were involved, but we have simplified the facts here.

In other words, although *Loretto* was in practical terms a simple case of access pricing, the Court chose to make the fact of physical invasion dispositive.⁴⁵ Referring to one of *Penn Central*'s three criteria, Justice Thurgood Marshall wrote for the majority that "when the physical intrusion reaches the extreme form of a permanent physical occupation, . . . 'the character of the government action' not only is an important factor in resolving whether the action works a taking but also is determinative."⁴⁶ A physical intrusion by government has "unusually serious character" and, if permanent, is "extreme" and fundamentally different from a temporary physical intrusion.⁴⁷ "When faced with a constitutional challenge to a permanent physical occupation of real property, this Court has invariably found a taking."⁴⁸ Professor Frank Michelman of Harvard Law School, the Court concluded, "accurately summarized" the law on physical invasions of property in his classic article: "The modern significance of physical occupation is that courts . . . never deny compensation for a physical takeover. The one incontestable case for compensation (short of formal expropriation) seems to occur when the government deliberately brings it about that its agents, or the public at large, 'regularly' use, or 'permanently' occupy, space or a thing which theretofore was understood to be under private ownership."⁴⁹ Unlike the balancing analysis in a regulatory takings case, "a permanent physical occupation is a government action of such a unique character that it is a taking without regard to other factors that a court might ordinarily examine."⁵⁰

45. *Id.* at 426 ("a permanent physical occupation authorized by government is a taking without regard to the public interests that it may serve").

46. *Id.*

47. *Id.*

48. *Id.* at 427-28 (distinguishing *Pumpelly v. Green Bay Co.*, 80 U.S. (13 Wall.) 166 (1872) (permanent flooding of private property), from *Northern Transp. Co. v. Chicago*, 99 U.S. 635 (1879) (temporary flooding of private property)). The Court emphasized that point by relying on additional decisions in which it predicated its finding of a taking on the permanent flooding of private property. *Id.* at 428 (citing *United States v. Lynah*, 188 U.S. 445, 468-70 (1903); *Bedford v. United States*, 192 U.S. 217, 225 (1904); *United States v. Cress*, 243 U.S. 316, 327-28 (1917); *Sanguinetti v. United States*, 264 U.S. 146, 149 (1924); *United States v. Kansas City Life Ins. Co.*, 339 U.S. 799, 809-10 (1950)).

49. *Id.* at 427 n.5 (quoting Frank Michelman, *Property, Utility, and Fairness: Comments on the Ethical Foundations of "Just Compensation" Law*, 80 HARV. L. REV. 1165, 1184 (1967) (emphasis in original)).

50. *Id.* at 432. The Court likened its rule on permanent physical invasion to a per se rule in antitrust law. *Id.* at 436.

The Court in *Loretto* reached the right result. But it is questionable whether that result flows from either the physical occupation of the property or the permanence of that occupation, rather than from the statute's interference with Ms. Loretto's ability to reap the pecuniary benefits incident to ownership of her property. The Court, for example, said that "constitutional protection for the rights of private property cannot be made to depend on the size of the area permanently occupied."⁵¹ On one level that statement can be taken to be a rhetorical flourish or an absolutist adherence to principle. But on another level, it can be taken to suggest that the concept of permanent physical occupation is a proxy for some other jurisprudential concern, and that the significance of that proxy magnifies as the objective burden of such physical occupation becomes more and more insignificant in terms of its relevant measure of area, volume, or mass. The Court hinted as much in *Loretto* by making light of the factual disagreement between the majority and the dissenters over the volume of the cable boxes attached to Ms. Loretto's building. "The displaced volume . . . [is] not critical: whether the installation is a taking does not depend on whether the volume of space it occupies is bigger than a breadbox."⁵² Surely, Ms. Loretto cared less about the permanent clutter that Teleprompter placed on her rooftop than about the 5 percent royalty on gross revenues that she was foreclosed from receiving from the company because New York's statute truncated the charge that she could levy for cable access to her building. The Court did address such issues later in its opinion, but that discussion is evidently dictum in light of the emphatic enunciation of the per se rule that preceded it.

Justice Marshall reasoned that a government policy permitting the permanent physical occupation of private property without compensation would be harmful to society as a matter of first principles and that such considerations animated the precedents upon which the Court relied in *Loretto*. "Property rights in a physical thing," he reasoned, are "the rights 'to possess, use and dispose of it,'" and the government's permanent physical occupation of private property "destroys each of these rights."⁵³ In support of that proposition, Justice Marshall made three points:

51. *Id.* at 436 n.12.

52. *Id.* at 438.

53. *Id.* at 435 (quoting *United States v. General Motors Corp.*, 323 U.S. 373, 378 (1945)).

First, the owner has no right to possess the occupied space himself, and also has no power to exclude the occupier from possession and use of the space. The power to exclude has traditionally been considered one of the most treasured strands in an owner's bundle of property rights.⁵⁴

As we argued earlier, a powerful economic rationale supports Justice Marshall, for the power to exclude is a prerequisite to voluntary exchange, allocative efficiency, and investment. Justice Marshall, however, had considerably more difficulty articulating the importance of protecting the *expectation interest* incident to property ownership:

Second, the permanent physical occupation of property forever denies the owner any power to control the use of the property; he not only cannot exclude others, but can make no nonpossessory use of the property. Although deprivation of the right to use and obtain a profit from property is not, in every case, independently sufficient to establish a taking, it is clearly relevant.⁵⁵

The nonpossessory use that the owner would presumably make of his property would be to alienate to others the net revenue stream that the property would generate. Yet the Court evidently did not want to follow its reasoning to its logical conclusion and acknowledge that the destruction of the reasonable expectation of that net revenue stream—not the physical invasion of property per se—is the proximate cause of the property owner's diminution in property value and thus the basis for the government's payment of compensation. Such reasoning would have flowed naturally from the 1893 decision in *Monongahela Navigation Co. v. United States*, in which the Court held, in the case of the federal government's confiscation of private locks and dams that had made the Monongahela River navigable, that "just compensation requires payment for the franchise to take tolls, as well as for the value of the tangible property."⁵⁶

And indeed Justice Marshall's third point was redolent of the implication that just compensation required protecting the property owner from the full opportunity cost of the physical invasion: "Finally, even though the owner may retain the bare legal right to dispose of the occupied space by transfer or sale, the permanent occupation of that

54. *Id.* at 435-36 (citing *Kaiser Aetna*, 444 U.S. at 179-80; RESTATEMENT OF PROPERTY § 7 (1936)).

55. *Id.* at 436 (citing *Andrus v. Allard*, 444 U.S. at 66) (citation omitted).

56. 148 U.S. 312, 343 (1893).

space by a stranger will ordinarily empty the right of any value, since the purchaser will also be unable to make any use of the property."⁵⁷ Physical occupation of the property denies its owner the ability to alienate not only a given right in the bundle (the stream of net revenues from the property), but also the entire bundle of rights.

The closest that the Court came to saying that the Takings Clause protects the owner's expectation interest in his property was Justice Marshall's observation that "an owner suffers a special kind of injury when a stranger directly invades and occupies the owner's property" and that consequently "property law has long protected an owner's expectation that he will be relatively undisturbed at least in the possession of his property,"⁵⁸ and that for such an invasion "the property owner entertains a historically rooted expectation of compensation."⁵⁹ But, of course, in *Loretto*, more than protecting her expectation to be undisturbed in her possession of her property, the Court was protecting Ms. Loretto's expectation that she would be undisturbed in the *use* of her property (through her ability to negotiate with Teleprompter a better access charge for her building than the one dollar that the statute allowed).

Five years later, the Court considered a similar case. The Pole Attachments Act authorized the FCC to regulate the rates, terms, and conditions of the attachment of cable television wires to utility poles if the state did not engage in such regulation, but the statute did not mandate access.⁶⁰ An electric utility challenged the statute as a permanent physical invasion of private property, but the Court ruled in *FCC v. Florida Power Corp.* that *Loretto* did not apply.⁶¹ Justice Marshall, again writing for the majority, reasoned that the statute merely regulated prices in consensual transactions. Unlike the New York statute in *Loretto*, which contained the "element of required acquiescence . . . at the heart of the concept of occupation," the federal law did not compel the property owner to submit to an involuntary transaction.⁶²

57. *Id.*

58. *Id.* "To require, as well, that the owner permit another to exercise complete dominion literally adds insult to injury." *Id.* (citing Michelman, *supra* note 49, at 1228 & n.110).

59. *Id.* at 441.

60. Pub. L. No. 95-234, § 6, 92 Stat. 35 (1978) (codified at 47 U.S.C. § 224).

61. 480 U.S. 245 (1987).

62. *Id.* at 252. In 1992 the Court reinforced that rationale: Property owners who "voluntarily open their property to occupation by others . . . cannot assert a per se right to compensation based on their inability to exclude particular individuals." *Yee v.*

Florida Power thus does not make *Loretto* any less applicable to mandatory network unbundling, for the introduction of such a regulatory obligation is by definition not voluntary. To the contrary, *Florida Power* has itself become a curio because the Telecommunications Act of 1996 made it *mandatory* for utilities to provide access to their poles, ducts, conduits, and rights of way; furthermore, the statute specified the formula for computing compensation for such mandatory access.⁶³ Thus, a new wave of pole attachment cases may arise for which *Florida Power* will no longer be dispositive.

Mandatory Interconnection or Unbundling

Because of the technological and economic complexity of interconnection and unbundling in network industries, it is easy to overlook the obvious: Mandatory interconnection and unbundling constitute a government-ordered, physical invasion of the property of the incumbent regulated firm. Electric utilities and local telephone exchange carriers have *rights of way*, poles, conduits, transmission lines, switches, central offices, and the like. Indeed, to build that physical infrastructure, an electric utility or a telephone company originally had to acquire the consent of the land owner or, if it was exercising the right of eminent domain, pay just compensation for its taking.⁶⁴ Mandatory interconnection or unbundling envisions rivals of the regulated firm having physical access to its property. The Oregon Supreme Court has recognized that fact and, relying upon *Loretto*, held unanimously in 1995 that the state PUC's order that enhanced service providers be allowed to collocate their equipment on the premises of incumbent local exchange carriers constituted a physical invasion that violated the Takings Clause.⁶⁵ The court emphasized that "the facts that an industry

Escondido, 503 U.S. 519, 531 (1992).

63. Pub. L. No. 104-104, § 703, 110 Stat. 56, 150 (1996) (codified at 47 U.S.C. § 224(e)).

64. See *Loretto*, 458 U.S. at 429, 437 (citing *Western Union Tel. Co. v. Pennsylvania R.R. Co.*, 195 U.S. 540 (1904); *Lovett v. West Va. Central Gas Co.*, 65 W. Va. 739, 65 S.E. 196 (1909); *Southwestern Bell Tel. Co. v. Webb*, 393 S.W.2d 117, 121 (Mo. App. 1965); *Portsmouth Harbor Land & Hotel Co. v. United States*, 260 U.S. 327 (1922)). The initial placement of poles for telegraph transmission a century ago generated litigation over whether the telegraph company had to pay a city for the space that its poles would permanently occupy along public streets. *St. Louis v. Western Union Tel. Co.*, 148 U.S. 92 (1893).

65. *GTE Northwest, Inc. v. Public Util. Comm'n of Ore.*, 321 Ore. 458, 468-77, 900 P.2d 495, 501-06 (1995), *cert. denied*, 116 S. Ct. 1541 (1996).

is heavily regulated, and that a property owner acquired the property knowing that it is heavily regulated, do not diminish a physical invasion to something less than a taking."⁶⁶

Furthermore, a physical invasion of the incumbent firm's property may occur even when the invasion is not visible. The first questions of interconnection pricing in modern regulatory experience arose in connection with the sale of "trackage rights" in the railroad industry. By order of the Interstate Commerce Commission, railroad *A* would be allowed to purchase the right to move its trains over tracks owned by railroad *B*, thus extending the geographic reach of railroad *A*'s rail network beyond its own facilities.⁶⁷ One can scarcely imagine a more vivid example of physical invasion than freight trains owned by one railway barreling down another railway's stretch of track.

In electrical or telecommunications networks, the locomotives are electrons or photons. Indeed, the metaphor "information superhighway" derives its saliency from its ability to convey that, no matter how silent or invisible it may be, the physical movement of bits across telephone wires is as tangible as trucks transporting goods across the interstate highway system. In *Loretto* the Court said that the web of cable television infrastructure that constituted a physical invasion of property in that case "could be described as a cable 'highway' circumnavigating the city block."⁶⁸ The wheeling of electricity over the transmission grid presents a slightly different case of physical movement through a network. Power flows through multiple paths of least resistance, as determined by Ohm's law, an intrinsic property of all conductors that defines current as a ratio of voltage to resistance. The Court has long recognized the legal implications of the physical properties of current flow for questions for federal jurisdiction,⁶⁹ for transmissions of electricity follow unanticipated routes to their final destinations that may cross state boundaries and thereby trigger federal regulation.⁷⁰ Nonetheless,

66. 321 Ore. at 474, 900 P.2d at 504.

67. See WILLIAM J. BAUMOL & J. GREGORY SIDAK, TOWARD COMPETITION IN LOCAL TELEPHONY 95-96 (MIT Press & AEI Press 1994) (citing *St. Louis S.W. Ry.—Trackage Rights over Missouri Pac. R.R.—Kansas City to St. Louis*, 1 I.C.C.2d 776 (1984), 4 I.C.C.2d 668 (1987), 5 I.C.C.2d 525 (1989), 8 I.C.C.2d 80 (1991)).

68. 458 U.S. at 422.

69. *FPC v. Florida Power & Light Co.*, 404 U.S. 453, 466-69 (1972); see also *Consolidated Edison Co. v. Public Serv. Comm'n*, 63 N.Y.2d 424, 440 (1984).

70. See, e.g., PETER S. FOX-PENNER, ELECTRIC POWER TRANSMISSION AND WHEELING: A TECHNICAL PRIMER 5, 53 (Edison Electric Institute 1990). The phenomenon of parallel flow paths is also said to reflect Kirchhoff's laws. On the pricing of trans-

the condition remains fundamentally the same as the locomotive operating pursuant to trackage rights: A rival's use of the incumbent's network involves occupying the physical capacity of that infrastructure to deliver a service that competes with the incumbent's.

Moreover, it does not matter that the party making the physical invasion of the telephony or electricity network is a private company rather than the state itself. As the Court said in *Loretto*, "A permanent physical occupation authorized by state law is a taking without regard to whether the State, or instead a party authorized by the State, is the occupant."⁷¹

*The Physics of
Network Invasion*

Physical Occupation of Electrical Transmission and Distribution Networks. The wheeling of electricity over transmission lines and distribution grids presents an example of physical movement through a network. The intrinsic physical properties of electricity make electric power different from other network supply systems, such as those for water or gas.⁷² Efficient electric power transmission requires guidance of transverse electromagnetic (TEM) waves.⁷³ High-voltage transmission lines serve as the guiding system for that power delivery. Those transmission lines generally consist of parallel conducting wires separated by uniform distances.⁷⁴ TEM waves, characterized by electric fields and magnetic fields that are perpendicular to each other and transverse to the direction of propagation, carry electromagnetic power to distant points along transmission lines.⁷⁵ Because power travels at nearly the velocity of light, about 3×10^8 meters per second, visual observation of energy flow is difficult. Yet, despite our inability to "see" tangible evidence of energy flow, we can measure the physical presence of power along transmission lines. One can determine the

mission in the presence of parallel flows, see William W. Hogan, *Contract Networks for Electric Power Transmission*, 4 J. REG. ECON. 211 (1992).

71. 458 U.S. at 432 n.9.

72. See Hogan, *supra* note 70, at 215.

73. See DAVID K. CHENG, *FIELD AND WAVE ELECTROMAGNETICS* 306-16 (Addison-Wesley Publishing Co. 1983); SIMON RAMO, JOHN R. WHINNERY & THEODORE VAN DUZER, *FIELDS AND WAVES IN COMMUNICATION ELECTRONICS* 371-415 (John Wiley & Sons, Inc. 1965).

74. CHENG, *supra* note 73, at 371.

75. *Id.* at 370; RAMO, WHINNERY & VAN DUZER, *supra* note 73, at 374.

power being transferred, in an alternating current system, at any instant of time by taking the product of the transmission line's root mean square (rms) voltage and rms current and the cosine of their phase difference.⁷⁶

Given that transmission lines serve as a guiding system for power transfer, is it possible to control completely the route that electricity will travel? Under current technology the answer is no, because transmissions of power follow unanticipated routes to their final destinations. Upon reaching a network of transmission lines with varying impedances, more power will be distributed through wires with smaller impedances. Also, because there exists no economically viable means of storing large quantities of energy, electric power must be produced, transmitted, and instantaneously distributed to meet customer demand, which varies with the time of day and the season of the year.

Because of those unique physical properties of electricity, mandatory retail wheeling, while aimed at fostering competition in the generation of power, would permanently deprive the incumbent local utility of part of its transmission capacity.⁷⁷ Furthermore, the incumbent utility would be forced to make available its distribution path for use by a competitor that may become obligated to provide an uninterruptable power supply to the incumbent's former customer. Consequently, the competitor would have the option of using the incumbent utility's capacity at any time the customer requested service.

The incumbent utility would not be the only party adversely affected by the retail power exchange. Another side effect of retail wheeling would be the permanent occupation of some capacity of all the networks involved in the wheeling process. For illustration, consider a customer located in Baltimore that was formerly served exclusively by utility *A*. The customer now desires to purchase power from utility *B*, located in North Carolina. Suppose that there are no direct connections

76. See, e.g., ISAAK D. MAYERGOYZ & WES LAWSON, BASIC ELECTRIC CIRCUIT THEORY: A ONE SEMESTER TEXT 86-90 (Academic Press 1996).

77. In late 1996 the Vermont Public Service Board rejected the argument that mandatory retail wheeling would constitute a permanent physical invasion of property that would be compensable under *Loretto*. Restructuring of the Electric Utility Industry in Vermont, Dkt. No. 5854, 174 P.U.R. 4th 409 (Vt. Pub. Serv. Bd. Dec. 30, 1996). The board purported to rely on precedent, but the two electricity cases that the board cited, *Kansas City Power & Light Co. v. State Corp. Comm'n*, 238 Kan. 842, 715 P.2d 19 (1986), *appeal dismissed*, 479 U.S. 801 (1986), and *Energy Ass'n of N.Y. State v. Public Serv. Comm'n of N.Y.*, 169 Misc. 2d 924 (Sup. Ct., Albany County 1996), did not seriously discuss the physics of invasion.

between utilities *A* and *B*. Thus, to reach utility *A*'s distribution grid, power generated by utility *B* must travel cross-country through utilities *C*, *D*, and *E*, which provide interconnection. With the interconnections, it is popularly believed that a direct "contract path" has been established from *B* to *A* via *C*, *D*, and *E*. As explained by Ohm's law and Kirchhoff's laws, however, wheeled power between systems does not flow exclusively over the direct interconnections.⁷⁸ Instead, loop flows result that cause power to traverse over many different utilities before reaching the desired buyer. Transmission lines may be connected to other transmission lines with different characteristic impedance or to various customer load resistances.⁷⁹ Because of Kirchhoff's laws, not all the power transmitted along a line necessarily goes through the interconnection; some fraction of power may be reflected back.⁸⁰ That physical behavior of electric power dispels the notion of a contract path because actual power transmission may and frequently does diverge from a predestined route.⁸¹

In the example above, assume utilities *F* and *G* are not involved in the wheeling process but are connected to utility *D*. Some amount of power will "mistakenly" travel through *F* and *G* as a result of loop flows. That unintended flow of power affects utilities far removed from the desired route.⁸² Utilities that experience uninvited power transfer have less transmission capacity available to serve their own needs.⁸³

78. Ohm's law holds that "the voltage V_{12} across a resistance R , in which a current I flows from point 1 to point 2 is RI ; that is, $V_{12} = RI$." CHENG, *supra* note 73, at 175. Kirchhoff's voltage law

states that *around a closed path in an electric circuit the algebraic sum of the [electromotive forces] (voltage rises) is equal to the algebraic sum of the voltage drops across the resistances*. It applies to *any closed path* in a network. The direction of tracing the path can be arbitrarily assigned, and the currents in the different resistances need not be the same. Kirchhoff's voltage law is the basis for loop analysis in circuit theory.

Id. at 180 (emphasis in original). Kirchhoff's current law "states that *the algebraic sum of all the currents flowing out of a junction in an electric circuit is zero*. Kirchhoff's current law is the basis for node analysis in circuit theory." *Id.* at 181 (emphasis in original).

79. RAMO, WHINNERY & VAN DUZER, *supra* note 73, at 23-41.

80. *Id.* at 28.

81. Hogan, *supra* note 70, at 216.

82. See EDISON ELECTRIC INSTITUTE, ENGINEERING AND RELIABILITY EFFECTS OF INCREASED WHEELING AND TRANSMISSION ACCESS: FACTORS FOR CONSIDERATION 19-22, 24 (Edison Electric Institute 1988) [hereinafter ENGINEERING AND RELIABILITY].

83. M. Granger Morgan & Sarosh Talukdar, *Nurturing R&D*, IEEE SPECTRUM, July 1996, at 32.

Furthermore, power flow along unintended lines could trigger overloads and power outages throughout all networks directly and indirectly involved in the wheeling process.⁸⁴ The magnitude of harm is so great that it must be taken quite seriously even if overloads and outages occur only infrequently.

Under retail wheeling, power would flow through a complex network of supply generators, transmission lines, and distribution grids all intricately tied together by hundreds of interconnections. In the example above, the wheeling utility becomes a composite of A, C, D, E, and others. The power flow along all transmission lines is characterized by a 60 Hz frequency; thus, power wheeled from competitor to customer is physically indistinguishable from the incumbent utility's power. Owing to the homogeneous nature of transmitted power, utilities cannot determine the origin of the loop flows and prevent future problems without new technology. In the absence of that technology, utilities could not preserve a high degree of reliability and guard against disruptions in the provision of electric power without maintaining a constant reserve of capacity on their transmission lines for their competitors.

Physical Occupation of Telecommunications Networks. Traditional telecommunications networks consist of three primary components: transmitter, channel, and receiver. The transmitter inputs information and converts it into electromagnetic signals appropriate for transmission.⁸⁵ The channel, serving as the bridge between the transmitter and receiver, provides a transmission path for the signal.⁸⁶ That signal is a time-dependent value attached to an electromagnetic pulse that carries information.⁸⁷ During transmission, the electromagnetic signal may experience distortion and the addition of noise. Upon detection, the receiver extracts the weakened and distorted signal from the channel and amplifies it.⁸⁸ Ideally, the regenerated signal remains nearly identical to the original version.

84. ENGINEERING AND RELIABILITY, *supra* note 82, at 24; see also Benjamin A. Holden, *Did Competition Spark Power Failures?*, WALL ST. J., Aug. 19, 1996, at B1.

85. CLIFFORD R. POLLOCK, THE FUNDAMENTALS OF OPTOELECTRONICS 4-7 (Richard D. Irwin Inc. 1995).

86. *Id.* at 5.

87. JOSEPH A. PECAR, ROGER J. O'CONNOR & DAVID A. GARBIN, MCGRAW-HILL TELECOMMUNICATIONS FACTBOOK 17 (McGraw-Hill Inc. 1993).

88. POLLOCK, *supra* note 85, at 5.

In local voice telephony, the station terminal equipment, in the form of telephone sets, represents the transmitter and receiver.⁸⁹ The channel for local communication consists of customer loops, cable pairs that connect the station terminal equipment to a central office, and transmission paths established within a switching system.⁹⁰ The switching systems serve to connect a specific terminal of several thousand terminals to the transmitting channel.⁹¹

The initial stage of voice communication begins at the transmitter station terminal. The microphone in the telephone receiver, the transducer, absorbs sound waves and converts the differences in acoustic pressure into a continuously varying analog electromagnetic signal.⁹² The analog signal is partitioned into a train of electrical impulses.⁹³ Each individual electric energy impulse, commonly called a bit, is characterized by a specific frequency and a specific amplitude corresponding to the unique pitch and unique loudness, respectively, of each sound.⁹⁴ The transformation of speech into electricity changes the character of sound from a continuous wave to a discrete number of individual bits. An analog-to-digital (A/D) converter built into the system accomplishes that transformation.⁹⁵

After discretization, electrical impulses are transmitted along the communication channel medium.⁹⁶ Bandwidth—that is, the range of allowed frequencies between the lower and upper limiting frequencies that varies with the transmission medium—determines the quantity of information the channel can transmit.⁹⁷ Ideally, the bandwidth is as large as possible to allow for greater information transmission capacity, which is defined as the number of bits per second that the channel can

89. 1 BELL COMMUNICATIONS RESEARCH, TELECOMMUNICATIONS TRANSMISSION ENGINEERING: PRINCIPLES 8 (Bellcore 1990).

90. *Id.*

91. *Id.* at 11.

92. PECAR, O'CONNOR & GARBIN, *supra* note 87, at 17.

93. For a graphical interpretation, see ALAN V. OPPENHEIM, ALAN S. WILLSKY & IAN T. YOUNG, SIGNALS AND SYSTEMS 515-16 (Prentice-Hall Inc. 1983).

94. PECAR, O'CONNOR & GARBIN, *supra* note 87, at 17.

95. For a rigorous description of A/D converters, see JACOB MILLMAN & ARVIN GARBEL, MICROELECTRONICS 719-24 (McGraw-Hill Inc., 2d ed. 1987).

96. *Id.* at 6. The medium for transmitting information is generally copper wire cable or fiber-optic cable. The physical properties of copper wire cable are similar to those of the transmission lines used for power delivery. For a discussion of the physics of fiber-optic cable, see POLLOCK, *supra* note 85.

97. WILLIAM L. SCHWEBER, ELECTRONIC COMMUNICATION SYSTEMS: A COMPLETE COURSE 14-15 (Prentice-Hall Inc. 1991).

support.⁹⁸ In most telephone networks, bandwidth is set around 3,000 Hz (3 KHz) because the span of 300 Hz to 3 KHz is all that is required to carry voice information.⁹⁹

Upon reaching the desired destination, the train of electric impulses is reconstructed into sound. The Shannon-Nyquist sampling theorem provides the scientific guidelines for recreating continuous sound from instantaneous discrete impulses.¹⁰⁰ The original analog signal can be reconstructed according to the sampling theorem, provided that the sample frequency is at least twice the bandwidth, by generating a periodic impulse train in which the successive impulses have amplitudes that are successive sample values.¹⁰¹ The sampling frequency must be high enough that the individually sampled pulses do not overlap; if overlap occurs, the original sound cannot be replicated.¹⁰² The sampled signal is processed through a low-pass filter, a mechanism for removing low-frequency noise and distortion, defined by a constant amplification factor and a cutoff frequency that is greater than the bandwidth and less than the difference between the sampling frequency and the bandwidth.¹⁰³ The filtered signal is converted back to an analog sound wave by using a digital-to-analog (D/A) converter.¹⁰⁴ The output from the D/A converter should provide a continuous sound wave that is faithful to the unique characteristics of the original transmitted speech.

Unlike electric power transmission, electric impulse trains carrying information must follow predestined routes along the transmission channel of a local exchange carrier's circuit-switched system.¹⁰⁵ Whereas electric power is indistinguishable within a delivery network, each bit

98. PECAR, O'CONNOR & GARBIN, *supra* note 87, at 22-24.

99. *Id.* at 14; see also DANIEL MINOLI, TELECOMMUNICATIONS TECHNOLOGY HANDBOOK 11 (Artech House 1991).

100. OPPENHEIM, WILLSKY & YOUNG, *supra* note 93, at 514-21.

101. *Id.* at 519.

102. Mathematically, the sampling theorem requires that $f_{\text{samp}} \geq 2f_{\text{sig}}$, where f_{samp} is the sampling frequency and f_{sig} is the signal frequency. The physical phenomenon of overlapping impulses is termed *aliasing*. For a mathematical description, see *id.* at 527-31.

103. The frequencies that pass through the low-pass filter are between $f_{\text{bw}} \leq f_{\text{co}} \leq (f_{\text{samp}} - f_{\text{bw}})$, where f_{bw} represents the bandwidth frequency, f_{co} represents the cutoff frequency, and f_{samp} represents the sampling frequency. *Id.*

104. For a rigorous description of D/A converters, see MILLMAN & GARBEL, *supra* note 95, at 715-19.

105. Different congestion problems arise in packet-switched networks and between such networks and circuit-switched networks. See J. Gregory Sidak & Daniel F. Spulber, *Cyberjam: The Law and Economics of Internet Congestion of the Telephone Network*, 20 HARV. J.L. & PUB. POL'Y (forthcoming 1997).

of information representing sound has a unique signature defined by its amplitude and frequency. Because each bit carries unique information, there cannot be more than one train of impulses transmitted along the channel of a circuit-switched network at one time. Consequently, in a market where competitive local telephony takes place over a single network, if a customer chooses to be serviced by a competitor, then the incumbent utility must surrender all use of its transmission channels that connect to that customer. The use of the transmission path is mutually exclusive.

JUST COMPENSATION AND REGULATION
OF PUBLIC UTILITY RATES

Sandwiched between the strict protection of private property in cases of physical invasions and the minimal protection in cases of regulatory takings are the cases involving the setting of rates for regulated public utilities. Just as property rights are an essential element of private exchange, so also are they required for individuals to transact with the government. Constitutional protections of property rights and due process are the foundation for the administrative process of regulation. Given that the terms of trade between individuals (or companies) are a private matter, how is price regulation to be reconciled with the protection of individual property rights?

Private property protection is the basis for utility regulation. The regulatory contract is subject to the full property protections of the Takings Clause.¹⁰⁶ As explained earlier, investor-owned utilities have a public mandate or obligation to provide service to all in a community who desire such service. In fulfillment of that duty, and in reasonable anticipation of future requests for increased service, the utility purchases and employs specialized assets. Without adequate compensation, the utility will not seek to make investments for expansion or replacement of plant and property and will not be able to raise the necessary capital. Rate regulation controls the returns to investment by the utility's owners; such regulation affects the property's value and therefore must not be confiscatory.¹⁰⁷ The rate of return allowed on property used for

106. *Chang v. United States*, 859 F.2d 893, 894 (Fed. Cir. 1988) ("There is no question that 'valid contracts are property, whether the obligor be a private individual, . . . or the United States.'") (quoting *Lynch v. United States*, 292 U.S. 571, 579 (1934)).

107. *Covington & Lexington Turnpike Road Co. v. Sandford*, 164 U.S. 578, 597 (1896) ("a rate that is too low can 'destroy the value of [the] property.'").

public purposes must be sufficient to compensate investors.¹⁰⁸ Sufficiency is measured relative to rates that enable the regulated firm "to operate successfully, to maintain its financial integrity, to attract capital, and to compensate its investors for the risk assumed."¹⁰⁹ Furthermore, the establishment of formal regulatory proceedings with hearings on the record by administrative regulatory agencies reflects the constitutional guaranty that the utility receive due process in ratemaking.

*The Duquesne Test of Fair Return on
Prudently Incurred Investment*

A taking occurs if regulatory authorities interfere with the utility's opportunity to earn a fair return on prudently incurred investment made to carry out regulatory obligations. Because the state regulates the return that the utility can earn, courts have long considered rate regulation of a utility's property to be subject to the Takings Clause. Uncompensatory rate regulation thus requires compensation of the utility's investors for their forgone expected returns. The major takings cases involving regulated utilities, such as *Federal Power Commission v. Hope Natural Gas Co.*¹¹⁰ and *Duquesne Light Co. v. Barasch*,¹¹¹ do not clearly answer the question of whether the regulator's refusal to allow the public utility the opportunity to recover stranded costs is a taking, for those decisions did not address the consequences of deregulation and wholesale abrogation of the regulatory contract in the name of establishing a competitive marketplace.

In *Duquesne*, the Duquesne Light Company began making investments in new nuclear power plants.¹¹² Those investments were reasonable (prudent) in light of the current costs of different production tech-

108. *Duquesne Light Co. v. Barasch*, 488 U.S. 299, 308 (1989); *Smyth v. Ames*, 169 U.S. 466, 546 (1898). See generally Richard J. Pierce, Jr., *Public Utility Regulatory Takings: Should the Judiciary Attempt to Police the Political Institutions?*, 77 GEO. L.J. 2031 (1989).

109. *FPC v. Hope Natural Gas Co.* 320 U.S. 591, 605 (1944); *Southwestern Bell Tel. Co. v. Public Serv. Comm'n*, 262 U.S. 276, 291 (1923) (Brandeis, J., concurring) ("The compensation which the Constitution guarantees an opportunity to earn is the reasonable cost of conducting the business. Cost includes not only operating expenses, but also capital charges. Capital charges cover the allowance, by way of interest, for the use of capital, whatever the nature of the security issued therefor; the allowance for risk incurred; and enough more to attract capital.").

110. 320 U.S. 591 (1944).

111. 488 U.S. 299 (1989).

112. Several other utilities were involved in *Duquesne*. For simplicity, we refer only to *Duquesne*.

nologies and expected future demand at the time they were made. Changes in the relative costs and risks of nuclear power (for example, the Three Mile Island nuclear mishap) resulted in a further (prudent) decision to abandon the nuclear power plants. Duquesne had spent roughly \$35 million in planning and preparation by that time.¹¹³ Duquesne sought to add those sunk-costs to its rate base and to recover them through amortization and the allowed rate of return. Unfortunately for Duquesne, however, after the expenditure but before the inclusion of the nuclear costs in the rate base, Pennsylvania enacted legislation that foreclosed the Pennsylvania Public Utility Commission from granting Duquesne recovery of those costs through higher utility rates.¹¹⁴

The Supreme Court examined whether the state legislation caused a taking of the property of Duquesne's shareholders without just compensation. Writing for the Court, Chief Justice William H. Rehnquist noted that Duquesne had "a state statutory duty to serve the public" and that its "assets [were] employed in the public interest," but that the company was "owned and operated by private investors."¹¹⁵ Those characteristics set the regulated firm apart from others: "This partly public, partly private status of utility property creates its own set of questions under the Takings Clause of the Fifth Amendment."¹¹⁶

Whether the allowed rates of a public utility violate the Takings Clause depends on whether they are "confiscatory"¹¹⁷—a determination that the Court in 1898 admitted in *Smyth v. Ames* to be "always . . . an embarrassing question."¹¹⁸ The answer to that question, however, does not depend on the use of any single methodology. The *Duquesne* Court reaffirmed the holding in *Hope* that it is the overall effect of rate regulation, not the details or methods, that matter.¹¹⁹ The question then was whether the rate of return that Duquesne achieved was constitu-

113. 488 U.S. at 302.

114. *Id.* at 303-04.

115. *Id.* at 307.

116. *Id.*

117. *Id.* at 307-08 (citing *Covington & Lexington Turnpike Road Co. v. Sandford*, 164 U.S. 578, 597 (1896); *FPC v. Natural Gas Pipeline Co.*, 315 U.S. 575, 585 (1942); *FPC v. Texaco Inc.*, 417 U.S. 380, 391-92 (1974)).

118. 169 U.S. 466, 546 (1898), *quoted in id.* at 308.

119. "[I]t is not theory but the impact of the rate order which counts. If the total effect of the rate order cannot be said to be unreasonable, judicial inquiry . . . is at an end. The fact that the method employed to reach that result may contain infirmities is not then important." *Hope*, 320 U.S. at 602, *quoted in Duquesne*, 488 U.S. at 310. The *Duquesne* Court liked *Hope's* rhetoric of "theory" and "impact" so much that it quoted the language twice. *Id.* at 314.

tionally sufficient. The Court considered the unrecovered sunk costs as part of the investment on which to measure the overall rate of return.

*Distinguishing Stranded Costs from the Unrecovered
Prudently Incurred Investment in Duquesne
That Did Not Constitute a Taking*

Five facts convinced the Court that no taking of Duquesne's property had occurred. Those facts look very different in the case of breach of the regulatory contract. First, Duquesne did not claim "that the total effect of the rate order arrived at . . . [was] unjust or unreasonable," and, to the contrary, the Court found that "the overall effect [was] well within the bounds of *Hope*, even with total exclusion" of the prudently incurred costs for the nuclear plants.¹²⁰ In contrast, the total exclusion of stranded costs could bankrupt certain regulated firms.

Second, Duquesne's "\$35 million investment in the canceled plants comprise[d] roughly 1.9% of its total base."¹²¹ Although the Court here did not cite Justice Holmes's remark in *Pennsylvania Coal* about the transaction costs of compensating trivial takings of private property,¹²² that consideration may have been present. It is, however, an odd proposition: If the parties affected by a confiscation are not diffuse, then the government's payment of compensation for a taking should be less of a burden (and thus more readily made) as the amount of compensation falls. Moreover, \$35 million of property loss is a substantial amount compared with what could conceivably have been at stake in, say, the portentous case of the cable television paraphernalia littering Ms. Loretto's rooftop. And, again, the amount of stranded costs at stake in the electricity and local telephony markets is greater than the \$35 million in *Duquesne* by orders of magnitude.

Third, the denial of cost recovery caused by the opportunistic behavior of the Pennsylvania legislature did not threaten Duquesne's financial survival:

No argument has been made that these slightly reduced rates jeopardize the financial integrity of [Duquesne], either by leaving [it] insufficient

120. *Id.* at 311-12. "The Constitution protects the utility from the net effect of the rate order on its property. Inconsistencies in one aspect of the methodology have no constitutional effect on the utility's property if they are compensated by countervailing factors in some other aspect." *Id.* at 314.

121. *Id.* at 312.

122. 260 U.S. at 413.

operating capital or by impeding [its] ability to raise future capital. Nor has it been demonstrated that these rates are inadequate to compensate current equity holders for the risk associated with their investments under a modified prudent investment scheme.¹²³

Again, breach of the regulatory contract unquestionably does jeopardize the financial integrity of some regulated firms.

A fourth and related fact upon which the Court relied was that the opportunism exercised by the Pennsylvania legislature was not the most extreme version available to it, given the extent to which a public utility's income depended on the consistency of the rate methodology that its regulator employed:

The risks a utility faces are in large part defined by the rate methodology because utilities are virtually always public monopolies dealing in an essential service, and so relatively immune to the usual market risks. Consequently, a State's decision to arbitrarily switch back and forth between methodologies in a way which required investors to bear the risk of bad investments at some times while denying them the benefit of good investments at others would raise serious constitutional questions. But the instant case does not present this question.¹²⁴

Justice Antonin Scalia, joined by Justices Sandra Day O'Connor and Byron R. White, concurred but warned, more forcefully than did Chief Justice Rehnquist's opinion for the majority, that the holding in *Duquesne* would not answer the question of whether just compensation would be due in future takings cases where the nature and magnitude of the utility's prudent investment differed substantially from *Duquesne*'s:

[W]hile "prudent investment" (by which I mean capital reasonably expended to meet the utility's legal obligation to assure adequate service) need not be taken into account as such in ratemaking formulas, it may need to be taken into account in assessing the constitutionality of the particular consequences produced by those formulas. We cannot determine whether the payments a utility has been allowed to collect constitute a fair return on investment, and thus whether the government's action is confiscatory, unless we agree upon what the relevant "investment" is. For that purpose, all prudently incurred investment may well have to be counted. As the Court's opinion de-

123. 488 U.S. at 312.

124. *Id.* at 315.

scribes, that question is not presented in the present suit, which challenges techniques rather than consequences.¹²⁵

Breach of the regulatory contract *does* present the serious constitutional question that *Duquesne* did not, for it threatens to exploit the utility's irreversible investment to a far greater extent than does the opportunistic disallowance of costs through prudency reviews or other retrospective mechanisms.¹²⁶

Fifth, the Court understood that "utilities are virtually always public monopolies . . . relatively immune to the usual market risks."¹²⁷ The new policies mandating interconnection and unbundling, however, will overturn that understanding, for the goal of such policies is to deny current providers of electricity and local telephony their immunity to the "usual market risks" of competition.

In short, although *Duquesne* forced utility investors to bear the losses from unrecovered but prudently incurred sunk costs, the Court's reasoning indicates that the problem of stranded costs arising from breach of the regulatory contract would present a case distinguishable from *Duquesne* in all five respects.

An important implication of *Duquesne* is that utility investors must be compensated in one way or another for prudently incurred sunk costs. One possible method is to include the costs in the investment rate base. A second possible method is to increase the future allowed rate of return sufficiently above the cost of capital that the effect is as if the cost of capital had been allowed on all investments, including sunk-cost losses. A third approach is to increase the allowed rate of return at the time of investment to anticipate the possibility that stranding of investment may occur. What is *not* permitted is switching between rate methodologies in a way that could sometimes require investors to bear the risk of bad investments and at other times deny them the benefit of good investments.¹²⁸ The Court indicated that the ratepayers should pay for the sunk costs: The PUC should either ex-

125. *Id.* at 317 (Scalia, J., concurring) (emphasis added).

126. Some legal commentators, writing before the current wave of mandatory unbundling in the electric power and telecommunications industries, recommended that the Supreme Court reduce the public utility's protections under the Takings Clause. See John N. Drobak, *From Turnpike to Nuclear Power: The Constitutional Limits on Utility Rate Regulation*, 65 B.U.L. REV. 65 (1985); Richard Goldsmith, *Utility Rates and "Takings,"* 10 ENERGY L.J. 241 (1989).

127. 488 U.S. at 315.

128. *Id.*

plicitly include the investments in the rate base (or allow an ongoing rate of return sufficiently high that the economic effect is equivalent to including costs in the rate base) or should increase the allowed rate of return on an ex ante basis to compensate for the expected cost of stranding.¹²⁹ Otherwise, ratepayers must pay the costs of sunk costs when they occur, since investors were not compensated before.

Property protections influence the incentives that utilities and ratepayers have to achieve the economically efficient result. If ratepayers bear prudently incurred sunk costs, they will lobby for abandonment of investments only when the economic value of alternative uses for the asset exceeds the value of the asset's continued use by the utility. That is precisely the efficient result. In contrast, investor-borne prudently incurred sunk costs result in inefficiency because the regulatory commission will be tempted to free ride by confiscating the property of the regulated utility.¹³⁰ That danger is particularly acute in the "endgame" that occurs in the transition from regulation to a competitive market.

Uncompensatory Pricing of Interconnection and Unbundled Access

Duquesne fails to address another form of taking that can arise under mandatory unbundling. Apart from being denied the opportunity to recover stranded costs, the incumbent regulated firm may be obliged to sell interconnection to its network or unbundled access to its basic service elements at prices that are uncompensatory. Invariably, the entrant seeks interconnection at (or below) long-run incremental cost (LRIC), with no contribution to the common costs of the incumbent's network. As we demonstrate in our discussion of efficient component

129. Some discussion of those issues appears in A. LAWRENCE KOLBE, WILLIAM B. TYE & STEWART C. MYERS, *REGULATORY RISK: ECONOMIC PRINCIPLES AND APPLICATIONS TO NATURAL GAS PIPELINES AND OTHER INDUSTRIES* (Kluwer Academic Publishers 1993); A. Lawrence Kolbe & William B. Tye, *The Duquesne Opinion: How Much "Hope" Is There for Investors in Regulated Firms?*, 8 *YALE J. ON REG.* 113, 123-27 (1991) [hereinafter *The Duquesne Opinion*]; Stephen F. Williams, *Fixing the Rate of Return After Duquesne*, 8 *YALE J. ON REG.* 159 (1991); see also ROGER A. MORIN, *REGULATORY FINANCE: UTILITIES' COST OF CAPITAL* 38-40 (Public Utilities Reports, Inc. 1994).

130. On the contrasting incentives to achieve the economically efficient result under differing rules for the recovery of stranded costs, see Michael J. Doane & Michael A. Williams, *Competitive Entry into Regulated Monopoly Service and the Resulting Problem of Stranded Costs*, 3 *HUME PAPERS ON PUB. POL'Y*, no. 3, at 32 (1995).

pricing in chapter 8 and 9, that price induces inefficient entry and threatens to bankrupt the regulated incumbent.

An illustrative example of the failure to recognize the takings implication of interconnection pricing arose in 1995 in a proceeding before the California Public Utilities Commission (CPUC) concerning the method of compensating incumbent local exchange carriers for terminating calls originated by subscribers to new competitive local carriers (CLCs).¹³¹ In 1995 the CPUC adopted rules to authorize prospective CLCs to request certificates of public convenience and necessity to provide local exchange service. Those rules were part of a larger plan to open all of California's telecommunications markets to competition by January 1, 1997. Under the rules, the CLCs were allowed to commence facilities-based local exchange competition on January 1, 1996, and bundled resale-based competition on March 1, 1996.

Before the start of either form of competition, the CPUC adopted for one year, beginning January 1, 1996, "interim" rules concerning the compensation to be paid by carrier *A* for having carrier *B* terminate *A*'s calls on *B*'s local exchange network. Rather than order carriers to price terminating access on the basis of some measure of cost (however defined), the CPUC adopted the "bill-and-keep" system advocated by the CLCs, which the commission described as follows:

"Bill-and-keep" is a method by which each LEC and CLC terminates local traffic for all other LECs and CLCs with which it interconnects, bearing its own capital and operating costs for these functions. Under this approach, individual LECs or CLCs theoretically bear a proportional share of the overall costs associated with reciprocal traffic exchange.¹³²

In other words, suppose that 99 percent of calls are placed to subscribers on the network of the incumbent local exchange carrier *B*, and only 1 percent of calls are placed to subscribers on the network of competitive local carrier *A*. All other things being equal, a subscriber on *A*'s system would therefore need to terminate calls on *B*'s network 99 per-

131. Competition for Local Exchange Service, Decision 95-09-121, R.95-04-043, I.95-04-044, 165 P.U.R.4th 127 (Cal. Pub. Utils. Comm'n 1995).

132. *Id.* at 128. The FCC has also endorsed the use of bill-and-keep as a model of interconnection pricing. Interconnection Between Local Exchange Carriers and Commercial Mobile Radio Service Providers: Equal Access and Interconnection Obligations Pertaining to Commercial Mobile Radio Service Providers, Notice of Proposed Rulemaking, CC Dkt. Nos. 95-185, 95-54, 11 F.C.C. Rcd. 5020 (1996).

cent of the time. Under bill-and-keep, *B* would bear the cost of terminating all calls on its system, including the cost of terminating 99 percent of all calls originating from *A*'s subscribers. Conversely, *A* would bear the cost of terminating the calls from *B*'s subscribers; but by assumption those calls constitute only 1 percent of the total volume of calls placed. Thus, *B* would bear the cost of terminating 99 percent of all traffic and avoid the cost of terminating only 1 percent. Conversely, *A* would avoid the cost of terminating 99 percent of the calls that originated on its network. As *A*'s share of the market grew, its percentage of termination costs avoided would correspondingly fall.

Bill-and-keep is an alternative to explicit mutual compensation by *A* to *B* and *B* to *A*. The method could conceivably economize on transaction costs by obviating the computation and remittance of access charges in settings where the amount owed for flows from *A* to *B* would cancel out the amount owed for flows from *B* to *A*. For that reason, bill-and-keep may be an efficient regime of interconnection pricing in some two-way networks, as in the case of the clearance of checks or transactional paper (credit card receivables) between large numbers of banks. But in local telephony bill-and-keep will produce a lopsided system of implicit compensation, and hence a substantial subsidy to entrants, until the market shares of *A* and *B* become comparable. No doubt it was for that reason that the CPUC's Division of Ratepayer Advocates, which supported bill-and-keep, argued that, in making its interim compensation rule, the CPUC "may well have assumed that the amount of traffic exchanged would be equal in absolute numbers and thus the exchange would be revenue neutral."¹³³

Two local exchange carriers, relying on the California Supreme Court's 1913 decision in *Pacific Telephone & Telegraph Co. v. Eshleman*,¹³⁴ challenged the CPUC's bill-and-keep rule as a taking on the ground that it constituted a forced sharing of their facilities with a competitor without compensation. In *Eshleman* (discussed more fully below) the California court ruled that the state could not subject the property of a public utility to use by its rival without compensation.¹³⁵ Yet, in response to the LECs' argument, in 1995 the CPUC ruled that the takings claims were "wholly lacking in merit."¹³⁶ One can hardly be surprised when a regulatory commission rejects an argument that it

133. 165 P.U.R.4th at 129.

134. 166 Cal. 640, 137 P. 1119 (1913).

135. 166 Cal. at 665, 137 P. at 1128.

136. 165 P.U.R.4th at 134.

has violated the Constitution. But even with that caveat in mind, the CPUC's treatment of the LECs' takings arguments was notably superficial and dismissive, particularly given the commission's abbreviated discussion of the U.S. Supreme Court's case law on takings.

In three successive paragraphs, the CPUC invoked the physical invasion, regulatory taking, and *Duquesne* lines of cases.¹³⁷ Even though the CPUC began its discussion of the law by noting that under *Duquesne* "the U.S. Supreme Court recognized that utility-related taking issues should be analyzed by focusing on whether rates properly compensate utilities for the property they have dedicated to public use," and even though the LECs emphasized the physical invasion of their networks that the interconnection rule entailed (and even though the CPUC *itself* cited *Loretto* as one of "the more important cases"), the commission inexplicably chose to analyze the LECs' taking claim under the standard least favorable to a regulated utility—namely, the three-part test enunciated in *Penn Central* and subsequently used by the Court in regulatory takings cases.¹³⁸ Indeed, the CPUC refused to follow *Eshleman* on the grounds that it was no longer in fashion:

In the early part of this century, the California Supreme Court did hold that when we order a utility to allow its property to be used in a way that exceeds the limits of its "dedicated use," then our order is in effect a taking, even if it appears to be a mere regulation. (The "dedicated use" of a utility property, put simply, is the public purpose for which the utility has agreed to use or "dedicate" its property.) . . . Unfortunately, the *Eshleman* case, which in 1913 was one of the first cases decided under the Public Utilities Act, does not provide clear guidance for contemporary takings questions. While the [California Supreme] Court's wide-ranging discussion of our nature and authority in that case is an important initial construction of the Public Utilities Act, its approach to the taking issue relies on now-outdated principles of jurisprudence and was criticized even by contemporary commentators and jurists.¹³⁹

Given the Court's 1982 decision in *Loretto*, given the five distinguishing factors discussed above that properly inform the limits of the

137. *Id.* at 132–33.

138. *Id.*

139. *Id.* at 133 (citing *Pacific Tel. & Tel. v. Wright-Dickerson Hotel Co.* (D. Or. 1914) (no citation given; cased evidently unreported); Annotation, *Right and Duty of Telephone Co. to Make Physical Connection*, 11 A.L.R. 1204, 1213 (1921)) (citation to *Eshleman* omitted).

Court's 1989 *Duquesne* decision concerning uncompensatory rate setting, and given the Court's invigoration of regulatory takings law by 1992 in *Lucas*, there was nothing "outdated" about the takings challenge to the CPUC's bill-and-keep rule. Nor should criticisms that commentators and lower courts lodged against *Eshleman* seventy years earlier trump the logic that motivates the Supreme Court's modern takings jurisprudence.

Instead of analyzing the bill-and-keep rule under the precedent of either the California Supreme Court or the U.S. Supreme Court, the CPUC invoked precedent of its own making in which it had stated:

The jurisprudence of the takings clause presents scholars with nice doctrinal nuances and fine opportunities for subtle disputation. But we need not join that debate here Having accepted for so long the benefits of monopoly, [the LEC] may not now reclaim this property as its sole private fief. We may regulate that property pursuant to our authority and in so regulating may diminish its value.¹⁴⁰

Despite the inherent asymmetry of implicit flows of compensation under bill-and-keep, the CPUC said that "[t]his cost allocation does not result in a diminution of the overall return to the LECs['] shareholders that is so low as to be confiscatory."¹⁴¹ With that conclusion, the CPUC evidently believed that it had satisfied the requirements of *Duquesne* and *Hope*, for it next purported to apply "established doctrine relating to 'takings' outside the utility arena."¹⁴²

That "established doctrine" consisted not of *Loretto*, but of *Penn Central's* three-part test. The CPUC first examined the character of its regulation and found that its "regulation of how call termination is handled during the initiation of local exchange competition is a proper exercise of our authority over the LECs who hold their property not as a 'private fief' but in the public trust."¹⁴³ For reasons that the CPUC declined to explain, it asserted that "[t]he character of our regulation of call termination is not analogous to *Eshleman*."¹⁴⁴ With respect to the LECs' investment-backed expectations, the CPUC concluded that the LECs would "avoid paying to terminate their customers' traffic on a

140. 165 P.U.R.4th at 133 (quoting D.95-05-020. mimeo., at 20, 21).

141. *Id.* at 134.

142. *Id.*

143. *Id.*

144. *Id.*

CLC's network during the year that the requirement is in place" and that, even though the CPUC did "not yet know if 'bill-and-keep' will in fact fully compensate a carrier, it can at least be said that the carriers will receive some benefit."¹⁴⁵ Finally, the CPUC considered the magnitude of the economic harm that bill-and-keep would impose on the LECs:

[I]t must be kept in mind that without some mechanism in place to deal with mutual call termination, local exchange competition cannot even begin. Moreover, during this first year of local exchange competition, we do not expect viable local competitors to be fully operative before the middle of 1996. Therefore, there is little risk of economic harm to [the LECs] from our interim approach. Even if one assumed that "bill-and-keep" would result in some cost to [the LECs], this cost will most likely be small, and it is a small price for these carriers to pay for the benefit they will gain as a result of the newly competitive environment for local telecommunications. In this new environment, [the LECs] may have much *greater* flexibility to enter new markets and *more control* over the rates which they can charge for their services.¹⁴⁶

There is more than modest irony in that pronouncement, for the CPUC was in essence saying that the LECs were incapable of recognizing regulatory policies that would serve their self-interest. In the new competitive market that the CPUC described, the LECs could charge no more than competitive prices—namely, the same prices that existing regulation presumably would replicate. But by requiring uncompensatory interconnection pricing regulation on top of the existing regulatory contract, the CPUC was necessarily requiring the LECs to receive something *less than a competitive return*—either in the current regulated environment or in the future competitive environment—at least until the implicit subsidy that bill-and-keep creates for entrants had equalized the volume of calls terminating on the LECs' network and the entrants' networks. Stated differently, a given LEC would receive compensable interconnection prices under bill-and-keep only when it had so subsidized competitive entrants that its share of local exchange terminations had fallen to 50 percent.

The CPUC's decision is most startling for its unexplained refusal to analyze compensation for mandatory interconnection under the one

¹⁴⁵ *Id.*

¹⁴⁶ *Id.* (citation omitted) (emphasis in original).

line of Supreme Court cases most relevant to the facts—namely, *Loretto* and the other decisions concerning physical invasion. As explained earlier, the mandatory interconnection of CLCs to the networks of regulated local exchange carriers entails a physical invasion of the pathways of electrons and photons, just as the trackage rights problem entails the physical invasion of one railroad network by the locomotive owned by the interconnecting railroad. The California Supreme Court had the vision to grasp that point in 1913 in *Eshleman*. Eighty-two years later the state's utility regulators did not—or perhaps the CPUC merely realized that to consider *Eshleman* applicable would necessitate the finding that the bill-and-keep rule was an unconstitutional taking.

In *Eshleman* Justice Henshaw wrote for the California Supreme Court that the “‘taking’ of property within the meaning of the constitution is not restricted to a mere change of physical possession, but includes a permanent or temporary deprivation of the owner of its use.”¹⁴⁷ He then quoted three treatises for the proposition that the mandatory order of trackage rights required the payment of just compensation to the incumbent railroad.¹⁴⁸ Those passages established that:

147. 166 Cal. at 664, 137 P. at 1127.

148. 166 Cal. at 664–65, 137 P. at 1127–28. In part, Justice Henshaw quoted an eminent domain treatise as follows:

[O]ne company cannot be authorized to take the joint use of another's tracks, except by an exercise of the eminent domain power. All the cases practically concede this by holding that compensation must be made. That it is competent for the legislature to authorize a railroad company to take the right to use the tracks of another railroad jointly, upon making compensation as required by the constitution, is a proposition almost unanimously supported by the authorities.

166 Cal. at 664, 137 P. at 1127 (quoting 2 JOHN LEWIS, A TREATISE ON THE LAW OF EMINENT DOMAIN IN THE UNITED STATES § 423 (Callaghan & Co., 3d ed. 1909)). He quoted a treatise on regulated industries as follows:

The principles discussed do not go so far as to give one common carrier the right to demand the use of the facilities of rival common carriers in order to compete against them. Thus it seems plain that one railroad cannot be required to make physical connection with its rival so that it may take its business away from it.

166 Cal. at 664, 137 P. at 1127–28 (quoting 1 BRUCE WYMAN, THE SPECIAL LAW GOVERNING PUBLIC SERVICE CORPORATIONS § 698 (Baker, Voohis & Co. 1911)). Finally, in relevant part, Justice Henshaw quoted a treatise on municipal franchises for the proposi-

This principle, it is to be noted, is not that the legislature, acting directly or through its authorized mandatories, may not subject property devoted by its owners to a public use to another public use, or to the same public use by its rivals, but that the doing of this is an act referable to the power of eminent domain and not to the police power, and that compensation must be made accordingly. Herein lies the vital distinction between the legitimate exercise of the police power and the exercise of the power of eminent domain. In the former, uncompensated obedience to the order is imperative. In the latter, the order may not be enforced without compensation first made. And, finally, it may not be amiss to point out that the devotion to a public use by a person or corporation of property held by them in ownership does not destroy their ownership and does not vest title to the property in the public so as to justify, under the exercise of police power, the taking away of the management and control of the property from its owners without compensation, upon the ground that public convenience would better be served thereby, or that the owners themselves have proven false or derelict in the performance of their public duty. Any law or order seeking to do this passes beyond the ultimate limits of the police power, however vague and undefined those limits may be.¹⁴⁹

In *Eshleman* the incumbent local exchange carrier, Pacific Telephone, also operated long-distance trunk lines. The Railroad Commission of California, then the regulator of telephone companies, ordered Pacific to provide interconnection to a competing LEC in each of two counties and reasoned that Pacific would receive compensation in the form of toll revenues for long-distance calls originating on the networks of the competing LECs.

Notwithstanding the CPUC's reading of the case, *Eshleman* was therefore directly relevant to the CPUC's reasoning in 1995 concerning bill-and-keep. The commission concluded that the incumbent LECs will eventually benefit under the flexibility of the new competitive environment even though the CPUC had no idea whether the bill-and-keep

tion that "the legislature cannot without compensation to the first company authorize the second company to take or use the track of the first although with compensation this might be done under the power of eminent domain if in its judgment the public good required it." 166 Cal. at 664-65, 137 P. at 1128 (quoting JOHN FORREST DILLON, COMMENTARIES ON THE LAW OF MUNICIPAL CORPORATIONS § 727 (Little, Brown & Co., 4th ed. 1890); JOHN FORREST DILLON, COMMENTARIES ON THE LAW OF MUNICIPAL CORPORATIONS § 1280 (Little, Brown & Co., 5th ed. 1911)).

149. 166 Cal. at 665, 137 P. at 1128.

arrangement would sufficiently compensate those LECs for providing mandatory interconnection for competitors in the present. Justice Henshaw rejected a similar argument in *Eshleman* when he wrote that “it cannot be contended . . . that an apportionment of rates or tolls for a service to be rendered in the future is a compensation for the present taking of property, and as little can it be said that the allocation of such rates and tolls to be earned in the future can ever measure up to the constitutional requirement that property shall not be taken without compensation first made and paid to the owner.”¹⁵⁰

The concurring opinion by Justice Sloss in *Eshleman* elaborates on the regulated firm’s need for cost recovery, the potential for competitors to free ride on its investment, and the contractual purpose for which it dedicated its property for public use:

By installing its long distance plant for the use of subscribers to its local systems, [Pacific] has developed an element of great value in the conduct of its local business at various points. It has thereby built up for itself an advantage, and a perfectly legitimate one, over competitors who, with a much smaller investment and at far smaller risk, have created only a local system. It has never offered to share this advantage with rival companies. To be compelled to so share it is to subject its property to a new use—and thus, in part, to take it. If the public interest requires the connection, appropriate provision for estimating and paying the damage occasioned thereby must be made.¹⁵¹

Whereas the CPUC’s discussion of the modern version of such issues dismissed the possibility of a taking as “wholly lacking in merit,” Justice Sloss’s opinion instead recognized the complexity of determining an access price for mandatory interconnection that would satisfy the Takings Clause:

A mere division of the tolls, even though the entire toll may be allotted to [Pacific], is not the compensation required as a condition to the taking of property for public use. In the first place, it is uncertain, both as to amount and time. In the next place, the division of tolls will only pay the company for the service actually rendered by it from time to time. It will not afford any compensation for the damage occasioned by the taking, i.e., by the subjecting of its property to the demands of a

150. 166 Cal. at 686–87, 137 P. at 1137 (citing *Attorney-General v. Old Colony R.R.*, 160 Mass. 62, 35 N. E. 252 (1893)).

151. 166 Cal. at 701, 137 P. at 1143 (Sloss, J., concurring).

public service to which that property was not dedicated. What the measure of such damage is I do not attempt here to define, but it is plain that it includes elements not covered by a mere apportionment of tolls.¹⁵²

One can read that passage to suggest that Justice Sloss intuitively recognized that the interconnection price must compensate the incumbent fully for its opportunity cost of providing network access to its competitor, and not simply for its long-run incremental cost. We return to that question in chapter 8.

UNCONSTITUTIONAL CONDITIONS ON THE LIFTING OF INCUMBENT BURDENS

In *Dolan v. City of Tigard*, the Supreme Court saw a genuine problem of unconstitutional conditions in the much simpler context of land-use regulations: "Under the well-settled doctrine of 'unconstitutional conditions,' the government may not require a person to give up a constitutional right—here the right to receive just compensation when property is taken for a public use—in exchange for a discretionary benefit conferred by the government where the property sought has little or no relationship to the benefit."¹⁵³ Similarly, recognizing the potential for unconstitutional conditions in situations involving mandatory access, the Court in *Loretto* said that "a landlord's ability to rent his property may not be conditioned on his forfeiting the right to compensation for a physical occupation."¹⁵⁴ The same reasoning applies to local exchange carriers and electric utilities selling interconnection or unbundled access to competitive entrants into their markets. The government, for example, could not "require a landlord to devote a substantial portion of his building to vending and washing machines, with all profits to be retained by the owners of these services and with no compensation for the deprivation of space."¹⁵⁵ Consistent with its solicitude for property rights when they are physically invaded, the Court has been equally absolutist on the question of unconstitutional condi-

152. 166 Cal. at 701, 137 P. at 1143 (citation omitted).

153. 114 S. Ct. 2309, 2317 (1994) (citing *Perry v. Sindermann*, 408 U.S. 593 (1972); *Pickering v. Board of Ed. of Township High School Dist.*, 391 U.S. 563, 568 (1968)).

154. 458 U.S. at 438 n.17.

155. *Id.*

tions: "The right of a property owner to exclude a stranger's physical occupation of his land cannot be so easily manipulated."¹⁵⁶

Those statements put a new face on the relationship between mandatory access and the lifting of incumbent burdens. For example, under the Telecommunications Act of 1996 an RBOC confronts a quid pro quo for removal of the prohibition on its provision of interLATA services: To be granted permission to enter the interLATA market, the RBOC must sell its unbundled service elements at prices that are acceptable to the most formidable of its would-be competitors—namely, interexchange carriers that seek to enter the local access market on a resale basis. Those established interexchange carriers demand the sale of unbundled elements at or below long-run incremental cost, which is not a compensatory price.¹⁵⁷ Thus, for the RBOC the process of securing relief from its incumbent burdens becomes an exercise in unconstitutional conditions.

THE INAPPLICABILITY OF *MARKET STREET RAILWAY*

Opponents of stranded cost recovery frequently cite the Supreme Court's 1945 decision in *Market Street Railway Co. v. Railroad Commission of California*¹⁵⁸ for the proposition that no taking of property occurs when the government breaches the regulatory contract. That reliance is misplaced for several reasons.

Market Street Railway involved a privately owned railway operating a street car and bus line in and around San Francisco. 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. In 1937 the railway began petitioning the state railway commission for a fare increase from five to seven cents. The commission approved the seven-cent fare in 1939. 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. Al-

156. *Id.*

157. PAUL W. MACAVOY, *THE FAILURE OF ANTITRUST AND REGULATION TO ESTABLISH COMPETITION IN LONG-DISTANCE TELEPHONE SERVICES 200-10* (MIT Press & AEI Press 1996).

158. 324 U.S. 548 (1945).

though demand subsequently increased as a result of conditions caused by World War II, the commission became concerned about the continued deterioration of service. It instituted an inquiry into both the reasonableness of the rates and the adequacy of service. 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.

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*. Although the company advanced numerous procedural and substantive arguments, its central objection was 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. 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 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."¹⁵⁹

Three factors distinguish *Market Street Railway* from the present cases of electric utilities and local exchange carriers 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."¹⁶⁰ 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

159. *Id.* at 553-54.

160. *Id.* at 565.

“suffered greatly from the earthquake and fire of 1906, but carried out a considerable program of reconstruction between 1906 and 1910.”¹⁶¹ 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.¹⁶² By 1919 the Court noted, the secretary of commerce and the secretary of labor had advised President Woodrow Wilson that the urban street railway industry as a whole was “virtually bankrupt.”¹⁶³ 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.¹⁶⁴

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.¹⁶⁵ Not surprisingly, in 1957 the U.S. Court of Appeals

161. *Id.* at 555.

162. MELVILLE J. ULMER, *CAPITAL IN TRANSPORTATION, COMMUNICATIONS, AND PUBLIC UTILITIES: ITS FORMATION AND FINANCING* 402–06 & tab. F-1 (National Bureau of Economic Research & Princeton University Press 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.

163. 324 U.S. at 565 n.8.

164. *Id.* at 567.

165. An earlier Supreme Court decision, *Public Serv. Comm’n of Montana v. Great N. Utils. 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. In apparent disregard for the existence of the antitrust laws, the Court said that the incumbent utility

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.”¹⁶⁶ 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.”¹⁶⁷

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 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.*, 320 U.S. 591, 603, 605, 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

“insists that it has a constitutional right by unrestrained cutting of rates to destroy the competitor.” *Id.* The facts reported in the Court’s opinion, however, confirm that any such predatory scheme, if it indeed was attempted, failed miserably. Moreover, as we note in chapter 3, 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 in 1933 that minimum price regulation was thwarting the incumbent firm’s efforts to mitigate stranded costs by reducing price below its competitor’s.

166. *Cincinnati Gas & Elec. Co. v. FPC*, 246 F.2d 688, 692 (D.C. Cir. 1957).

167. *Id.*

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.¹⁶⁸

Electric utilities and incumbent local exchange carriers, 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 local exchange carriers. 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 would presumably 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 municipally owned railway, 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

168. 324 U.S. at 566.

a return in the face of a more successful competitor.”¹⁶⁹ 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.”¹⁷⁰ Both propositions are red herrings that reveal the depth of the contemporary misunderstanding of *Market Street Railway* that exists among regulators and jurists.¹⁷¹ *Market Street Railway* did not concern investments by a regulated firm that had become 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 enter-

169. *E.g.*, Application of Central Power and Light Co. for Authority to Change Rates, Proposal for Decision, Order, Dkt. No. 14965, at 81 ¶ 64 (Pub. Util. Comm’n Tex. Mar. 31, 1997).

170. Energy Ass’n of N.Y. State v. Public Serv. Comm’n of N.Y., 169 Misc. 2d 924, 942 (Sup. Ct., Albany County 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. There is no question that the People . . . have the ultimate right to choose . . . what that mode shall look like.

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).

171. For similar misinterpretations of *Market Street Railway*, see Restructuring of the Electric Utility Industry in Vermont, Dkt. No. 5854 (Vt. Pub. Serv. Bd. Dec. 30, 1996); Restructuring New Hampshire’s Electric Utility Industry, DR 96-150 Order No. 22,514, 175 P.U.R.4th 193 (New Hamp. Pub. Utils. Comm’n 1997).

prise providing such service. If a more successful competitor has arrived, as the Texas commission posits, 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.

*NORTHERN PACIFIC RAILWAY AND
THE REGULATOR'S REDEFINITION OF
THE INTENDED USE OF DEDICATED PROPERTY*

The Supreme Court's 1915 decision in *Northern Pacific Railway Co. v. North Dakota* has 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, for the decision emphasizes that once a regulated utility has dedicated private property to a public purpose, the government cannot appropriate that property for a different purpose.¹⁷² 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

172. 236 U.S. 585 (1915).

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 the companies overall 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."¹⁷³ That the state may reasonably regulate to ensure that a carrier fairly discharges the obligations of its charter does not mean that 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 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.¹⁷⁴

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."¹⁷⁵ That simple example from 1915 has a counterpart in the debates of the late 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

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

174. *Id.* at 595-96.

175. *Id.*

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.¹⁷⁶ North Dakota's goal of "making the community less dependent upon fuel supplies imported into the State"¹⁷⁷ 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 would be equivalent to an appropriation of the property to public uses upon terms to which the carrier had in no way agreed.¹⁷⁸

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 appro-

176. *Id.* at 598.

177. *Id.*

178. *Id.* (emphasis added).

priation of its property to public purposes outside the undertaking assumed¹⁷⁹

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 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.¹⁸⁰ Given that the absence of 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 in that manner? 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

179. *Id.* at 604.

180. E.g., TEX. CONST. art. I, § 26.

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 Package Cases* 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.¹⁸¹ And early cases such as *Pacific Telephone & Telegraph Co. v. Eshleman*, 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.¹⁸² 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 utilities 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 subscribership within a service area.¹⁸³

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 transaction-specific infrastructure. Yet, such facilities-based entry was not expected to occur because local exchange carriers 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

181. 117 U.S. 1 (1885); see MICHAEL K. KELLOGG, JOHN THORNE & PETER W. HUBER, *FEDERAL TELECOMMUNICATIONS LAW* 13–14 (Little, Brown & Co. 1992).

182. 166 Cal. 640, 664–65, 137 P. 1119, 1127–28 (1913).

183. MILTON L. MUELLER, JR., *UNIVERSAL SERVICE: COMPETITION, INTERCONNECTION, AND MONOPOLY IN THE MAKING OF THE AMERICAN TELEPHONE SYSTEM* 59–60 (MIT Press & AEI Press 1997).

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.¹⁸⁴ "Recapture" was the name given that 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.¹⁸⁵

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.

Northern Pacific Railway has relevance to current policies on network unbundling such as the FCC's 1996 interconnection order.¹⁸⁶ To price mandatory access to the incumbent LEC's network elements, the FCC introduced the concept of total *element* long-run incremental cost (TELRIC), which is to be distinguished from total *service* long-run

184. *E.g.*, An Ordinance Granting to Central Power and Light Company, Its Successors and Assigns, an Electric Light, Heat and Power Franchise, Corpus Christi, Texas § 4 (July 2, 1935) ("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. . . .").

185. IRSTON R. BARNES, *THE ECONOMICS OF PUBLIC UTILITY REGULATION* 220 (F. S. Crofts & Co. 1942).

186. Implementation of the Local Competition Provisions in the Telecommunications Act of 1996, Interconnection Between Local Exchange Carriers and Commercial Mobile Radio Service Providers, First Report and Order, CC Dkt. Nos. 96-98, 95-185, 11 F.C.C. Rcd. 15,499 (1996).

incremental cost (TSLRIC). TELRIC embodies more than a new kind of costing exercise. It reflects a fundamental redefinition of the output of the regulated local exchange carrier. In the past, the output of a LEC consisted of services. After the FCC's 1996 interconnection order, discussed in chapters 9 and 12, 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 transaction 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.

THE MISINTERPRETATION OF JUDGE STARR'S CONCURRENCE IN *JERSEY CENTRAL*

Opponents of stranded cost recovery also sometimes cite Judge Kenneth Starr's 1987 concurring opinion in *Jersey Central Power & Light v. FERC*¹⁸⁷ as support for their view that there is no constitutional basis for recovery of stranded costs. That reliance is misplaced. It overstates the significance of the concurring opinion and mischaracterizes its meaning.

In *Jersey Central*, the electric utility contested FERC's decision to reduce the company's rates. Jersey Central sought to recover through higher rates a portion of the unamortized costs associated with its sus-

187. 810 F.2d 1168 (D.C. Cir. 1987).

pendent construction of a nuclear power plant. Although all parties agreed that the investment was prudent when made, political and economic conditions had changed so drastically that Jersey Central after several years decided to abandon the project. The company proposed an arrangement by which investors and consumers would share the losses. FERC summarily rejected the proposal and issued an order that excluded the unamortized portion of the investment in the cancelled plant.

As a result, the company alleged that its financial position was precarious and that it was severely handicapped in raising new capital to meet its statutory obligations. Nonetheless, FERC repeatedly refused to hold an evidentiary hearing on the reasonableness of the rates imposed or to provide the court with a clear and consistent explanation of its position. To the extent that the agency provided an explanation, it appeared to argue that the precedential effect of its prior decisions required application of the "used and useful" test without need of a hearing to consider other factors, such as the impact of its decision on the company's financial status, its investors, and its ability to attract capital.

It bears emphasis that the question of whether FERC's order constituted an unconstitutional taking was *not* before the D.C. Circuit. Rather, the questions the court decided were, first, whether FERC was obligated under *Federal Power Commission v. Hope Natural Gas Co.*¹⁸⁸ to provide Jersey Central with a hearing to determine whether its rates were "just and reasonable" and, second, what the proper scope of judicial review of such a determination was. The majority opinion by Judge Robert H. Bork—joined by Judges Laurence H. Silberman, James L. Buckley, and Ruth Bader Ginsburg (now Justice Ginsburg)—analyzed the requirements of *Hope*. The court held that, when a rate is claimed to be beyond "just and reasonable" boundaries, FERC must carefully consider the total impact of the rate—not only on consumers, but on investors as well—and that the agency's findings must be based on substantial evidence in the record.¹⁸⁹ A court reviewing that decision must ensure that the end result of the commission's order "constitutes a reasonable balancing, based on factual findings, of the investor interest in maintaining financial integrity and access to capital markets and the consumer interest in being charged non-exploitative rates."¹⁹⁰

The court repeatedly stressed that, under *Hope*, the issue is not whether the particular method used to determine the rate is in itself "reasonable," but whether the end result is reasonable in light of all

188. 320 U.S. 591 (1944).

189. 810 F.2d at 1177-78.

190. *Id.* at 1178.

pertinent factors, including the company's financial status. The court further noted that the "used and useful" test has "ceased to have any constitutional significance" and is now "simply one of several permissible tools of ratemaking, one that need not be, and is not, employed in every instance."¹⁹¹ Additionally, "the commission [is] not obligated to exclude from the rate base all property not presently 'used and useful,' but was free to include prudent but cancelled investments."¹⁹²

In his separate opinion, Judge Starr concurred with both the result and the reasoning of the majority's opinion. He did not depart from or criticize the opinion in any manner, however slight. As in the majority opinion, moreover, Judge Starr chided FERC for appearing to shirk its statutory obligations under *Hope* by summary application of the "used and useful" test. The Commission, he observed, "in order to engage in reasoned decisionmaking, has a duty to consider the entire financial circumstances confronting the utility, . . . not to rely blindly on precedents which do not involve similarly situated utilities facing the most dire financial consequences."¹⁹³

The remainder of Judge Starr's concurring opinion is devoted to an interesting but gratuitous discussion of when a taking of investor property occurs in a rate regulation case—a question that Judge Starr explicitly stated was *not* before the court,¹⁹⁴ but which he felt on remand FERC would have to consider as part of its *Hope* analysis. Judge Starr's view of a proper takings standard in a rate regulation case is indistinguishable from the "just and reasonable" statutory standard set forth in *Hope* and in the majority opinion in *Jersey Central*. A taking occurs, said Judge Starr, "only when a regulated rate is confiscatory, which is a short-hand way of saying that an unreasonable balance has been struck in the regulation process so as unreasonably to favor ratepayer interests at the substantial expense of investor interests."¹⁹⁵

Judge Starr simply expressed his personal opinion that in a rate case he prefers that constitutional analysis be based on a balancing of interests rather than on mechanical application of any one rule. Moreover, whatever the merits of Judge Starr's approach with respect to losses truly imposed by changes in market conditions, his views provide less

191. *Id.* at 1175.

192. *Id.* at 1177 (citing *Washington Gas Light Co. v. Baker*, 188 F.2d 11, 19 (D.C. Cir. 1950)).

193. *Id.* at 1188–89 (Starr, J., concurring).

194. *Id.* at 1189.

195. *Id.*

guidance in determining the proper balance to be struck where the losses have been imposed by the regulator as a result of abrogation of the regulatory contract. Indeed, Judge Starr asserted earlier in his concurrence that, in the case of Jersey Central's canceled nuclear plant, "a taking of investment funds in the . . . project would have occurred if government *so regulated as to prevent the property, in whole or in part, from being employed in the manner desired by the owner.*"¹⁹⁶ Although those conditions did not occur in *Jersey Central*, they obviously are present when regulators order an electric utility to provide access to its facilities to competitors. It could not be clearer that retail wheeling prevents the property "in whole or in part, from being used in the manner desired by the owner." The same is true of mandatory unbundling of the local exchange.

Furthermore, opponents of stranded cost recovery evidently fail to recognize the entire basis for Judge Starr's reasoning that takings analysis in rate cases requires a balancing of interests rather than an application of the prudent investment, used and useful, or other cost recovery rule. The foundation for that conclusion, Judge Starr stated explicitly, is the existence of a regulatory contract:

The utility business represents a compact of sorts; a monopoly on service in a particular geographical area (coupled with state-conferred rights of eminent domain or condemnation) is granted to the utility in exchange for a regime of intensive regulation, including price regulation, quite alien to the free market. Each party to the compact gets something in the bargain. As a general rule, utility investors are provided a level of stability in earnings and value less likely to be attained in the unregulated or moderately regulated sector; in turn, ratepayers are afforded universal, non-discriminatory service and protection from monopolistic profits through political control over an economic enterprise.¹⁹⁷

In other words, the foundation for Judge Starr's analysis is the existence of the very regulatory contract that opponents of stranded cost recovery assert does not exist or has no legal effect to ensure that the utility has a reasonable opportunity to recover the full costs of its nonsalvageable investments.

Because the regulatory contract provides the utility the benefits of entry regulation to facilitate recovery of the cost of nonsalvageable

196. *Id.* at 1190 (emphasis added).

197. *Id.* at 1189 (citation omitted).

investments, Judge Starr was understandably concerned that ratepayers not be forced unjustly to bear a disproportionate share of losses that, in an unregulated market, would have been borne entirely by investors and that did not result from any act or omission of regulators. As Judge Starr himself recognized, the analysis necessarily changes in cases where the losses are imposed not by any external market force, but by the regulator's own act or omission. Such an instance would occur when the regulator repudiates the regulatory contract by withdrawing entry regulation without providing for an alternative mechanism to recover the cost of the utility's nonsalvageable investments and to defray the cost of any incumbent burdens that the regulator chooses to leave in place.

CONCLUSION

This chapter has reviewed the economic and legal rationales for protecting property from government confiscation. We have seen how each of the three lines of takings cases would shed light on a deregulatory taking in the telecommunications or electric power industry. A case involving a deregulatory taking would be a case of first impression. Nonetheless, under established takings jurisprudence, a breach of the regulatory contract, including the mandatory unbundling of the utility's infrastructure, would constitute a taking of property if not accompanied by offsetting mechanisms to recover stranded costs and to end continuing incumbent burdens. The government's unilateral repudiation of the regulatory contract would require the payment of just compensation. How one should determine such compensation is the question to which we now turn.

Deregulation and Managed Competition in Network Industries

HOW SHOULD REGULATORS approach the competitive transformation of network industries? The temptation is to "manage" the competitive transition so as to determine the *outcome* of competition. Thus, paradoxically, the process of deregulation often brings about increased regulatory intervention in the marketplace and correspondingly greater administrative costs and market inefficiencies. The result is neither fish nor fowl, neither a regulated market nor a competitive one. The benefits of competition do not materialize. Partial deregulation distorts economic incentives in a manner that is far worse than traditional rate-of-return regulation or newer forms of incentive regulation. The staffs and budgets of the regulatory agency swell as they undertake the impossible task of managing markets. The problem is akin to privatization in planned economies. Government policymakers must be willing to forsake power and influence over the economy, and to trust what they sometimes view as the "chaos" of the marketplace.

Regulators are concerned with achieving competition "fairly," yet markets are well known for their efficiency properties, rather than the equity of the outcomes that they produce.¹ Economists may posture as purists and assert that it is misguided for regulators to pursue any goal other than economic efficiency. However correct that position may be as

1. The California Public Utilities Commission, for example, "shall take steps to ensure that competition in telecommunications markets is fair and that the state's universal service policy is observed." CAL. PUB. UTIL. CODE § 709.5.

a matter of theory, it does not take the institutional setting of regulation as it really is. Consequently, although economists may consider the definition of "fair competition" to be an oxymoronic undertaking, it is nonetheless necessary to supply regulators with an operational definition of fairness that does not attempt to specify outcomes. They need a set of objectives that does not perpetuate regulation but rather lets regulation recede as competition progresses. This chapter proposes three general principles for providing such a definition and thus facilitating the regulator's role in the competitive transformation of network industries.

Free-market competition likely will bring significant benefits to consumers by enhancing the productive efficiency of companies in telecommunications, electric power, and other network industries. Competition will increase the variety of products and services that are offered and stimulate technological innovation. Achieving the benefits of market allocation, however, does not mean that regulators should transfer income from regulated utility investors to consumers. Regulators should not confuse such income transfers with efficiency gains. Instead, regulators should establish basic rules for an orderly transition to competition that rely on competitive innovation and cost cutting as the sources of consumer benefits. To achieve fully the benefits of competition while preserving fairness, regulators should observe three fundamental principles:

Economic incentive. To preserve economic incentives requires cost recovery for past, present, and future regulatory obligations. The regulated incumbent would not undertake significant expenditures to perform its regulatory service obligations or continue to incur such expenses without economic incentives. Eliminating cost recovery for regulatory obligations will induce free riding by entrants and regulators, and it will make it difficult for regulators to achieve future agreements with private firms. The consequences of reducing or eliminating those economic incentives would be to raise the incumbent firms' cost of capital, to reduce the quality of their service, to discourage their innovation and investment, and ultimately to deprive markets of the competitive effort and technological expertise of the incumbents.

Equal opportunity. To achieve the benefits of competition fairly requires that regulations fall evenly on both competitive entrants and the formerly regulated incumbent. In practice, that even-handedness means that incumbent burdens must be either dismantled or shared equally across market participants and that any competitive flexibility possessed by entrants must be accorded to incumbents.

Impartiality. Regulatory commissions cannot “pick winners” in terms of technology, products and services, individual companies, or market institutions. Regulators can achieve the benefits of competition only by refraining from market interventions that favor particular competitors, by avoiding attempts to manage competitive outcomes, and by dismantling regulation in demonstrably competitive markets—that is, where there are actual and potential alternatives.

In this chapter we examine the economic incentive principle, set out its underpinnings based on the regulatory contract, and assess the implications for competition, investment, innovation, and quality of service if competitive rules reduce economic incentives for incumbents. We then examine the equal opportunity principle, identify its relationship to competitive entry, and explore its implications for the removal and sharing of incumbent burdens and the removal of regulatory restrictions on incumbent utilities. Finally, we examine the impartiality principle and explain the need for regulators to remove excessive regulation.

A consistent application of those three principles would provide an essential set of guidelines for the restructuring of regulations governing network industries that would yield the benefits of competitive markets. For ease of exposition, we cast much of our discussion in terms of local telephony and local exchange carriers (LECs), although our analysis is intended to, and does, extend equally to investor-owned electric utilities, as well as other investor-owned public utilities that may face partial or total deregulation of their network industry.

THE ECONOMIC INCENTIVE PRINCIPLE

The *economic incentive principle* requires that the regulatory commission give the local exchange carrier the incentive to discharge its regulatory obligations. We consider the consequences for telecommunications markets of competitive rules that would deprive the incumbent LEC of the economic incentives to compete in the market, invest in expanding and upgrading facilities, maintain quality of service, and obtain investment capital. We then examine the implications of that principle for the design of competitive rules governing the local telecommunications market.

Incentives for Voluntary Exchange and Investment

Economic analysis of how consumers, companies, investors, and other market participants make choices rests on the notion of response to

incentives. A consumer purchases goods and services only if he anticipates gains from trade—that is, only if he expects the transaction to yield positive net benefits for him. Companies supply products and services in the hope of earning economic profits—that is, earnings beyond what is necessary to keep all factors of production employed in their current use. It follows that a supplier will not invest in a transaction unless he expects the returns from the transaction to recover all economic costs, including a competitive return to invested capital. Investors supply funds to projects in expectation of earning a competitive return on their investment—that is, a return that equals the return on other investment opportunities of comparable risk. Markets function on the basis of those economic incentives.

Economic incentives imbue contract law. As we discuss in chapter 4, a contract must provide *consideration* to each of the parties. Parties generally will not make promises gratuitously—that is, without a contract that provides them with economic incentives to supply goods or services or other performance specified in the contract.² Damage remedies for breach of contract also contain economic incentives. Without such incentives, a party to the contract would be tempted to behave in an opportunistic fashion: He would break the contract (without cost to himself) when it was advantageous for him to do so; and, by unilaterally forcing a renegotiation of the contract terms, he would take advantage of the irreversible commitments made by the other party to the contract. Without such incentives to honor the terms of efficient contracts, parties would decline to enter into contractual commitments, and society would lose the many benefits of contractual exchange.

As chapters 4 and 6 explain in detail, legal protections of private property rest on economic incentives. Without property protections, individuals and businesses would not have an incentive to invest in improvements of their property. Without property protections for the residual returns from investment projects, companies would not have the incentive to undertake those productive activities. Economic incentives therefore affect the production and investment behavior of any firm, whether or not that firm is subject to regulation. Federal and state regulation of public utilities takes account of the economic incentive principle. A utility would not have undertaken the extensive investments required to provide regulated service within its franchise region without

2. In chapter 4 we also discuss the relevance of gratuitous promises to the regulation of network industries. We show that the law of gratuitous promises also protects economic incentives of investors in public utilities.

the necessary economic incentives. Removing such incentives would eliminate the impetus for a regulated company to undertake new expenditures to satisfy regulatory obligations.

*Regulatory Opportunism
and the Cost of Capital*

As the telecommunications industry becomes deregulated, the incumbent LEC cannot be asked to provide services in the competitive market at regulated prices that are uncompensatory—that is, at prices that preclude any reasonable opportunity for full cost recovery. The destruction of economic incentives that would result from depriving a utility of the reasonable opportunity to earn a fair return on its investment would reduce the utility's ability—and hence its willingness—to continue providing service. By a “fair return” we mean the return that investors expect to receive in comparison with competitive alternatives of comparable risk. Accordingly, we use the terms *fair return* and *competitive return* interchangeably. If competitive rules deny the utility the reasonable opportunity to earn a fair return on its investments made under the previous regulatory regime (and thus cause stranded costs to materialize), the regulator's attenuation of economic incentives will create additional efficiency problems.

If the regulator's rule for deregulating the industry destroys the economic incentives facing the utility, then the regulator will create a temptation for opportunism and free riding; the regulator will also raise the cost of capital, deprive the market of some effective competitors, reduce the quality of service, and deter innovation. Concerns over reputation effects normally keep regulatory commissions from behaving opportunistically. If the regulatory commission were to behave opportunistically, there would be several related consequences. If a regulated firm were made to anticipate renegotiation of rate agreements after it had made irreversible investments, it would have an incentive to underinvest. Moreover, by raising the risks to investors through such opportunistic behavior, the regulator would necessarily raise the cost of capital to the regulated firm. That risk premium would apply to both debt financing and equity financing of utility investment.³

3. For a more technical discussion of the effects of imperfect regulatory commitment on the utility's capital structure and its cost of capital, see Yossef Spiegel & Daniel F. Spulber, *The Capital Structure of a Regulated Firm*, 25 RAND J. ECON. 424 (1994).

Denying the utility's investors the reasonable opportunity to earn a fair rate of return on their investments not only lowers the value of the utility's equity but also increases its cost of raising capital because investors must be compensated for the increased risk that they are made to bear. Thus, the inability of a utility to recover stranded investment would increase its capital costs. A regulatory commission must be aware that its reputation and the regulatory climate of its state affect the anticipated risk to potential investors. For the utility to be able to continue to attract capital, its rate of return must be competitive with other investment opportunities. If the regulator disappoints current investor expectations, investors will revise their assessment of the risks involved in continuing to invest in regulated companies in that state. In short, contrary to the simplistic assessment that stranded costs are sunk costs whose recovery does not affect the current and future decisions of economic actors, it is clear that the recovery of the utility's historic costs (also called embedded costs) is an issue whose treatment by the regulator during the transition to competition affects the utility's investment decisions and cost of capital on a forward-looking basis.

To the extent that some services provided by utilities continue to be regulated, the regulator's failure to address the problem of stranded costs harms the long-term interests of ratepayers. If the regulator does not protect the expectation interest of utility investors, then customers in competitive telecommunications markets may receive short-term gains at the long-term expense of other customers in segments of the market that continue to be regulated. That scenario represents an income transfer from one group of customers to another, rather than a benefit of deregulation.

Impairment of Competition

Reducing or eliminating the economic incentives for utilities will deprive local telecommunications markets of effective competitors. If those competitors would be able to bring specialized service capabilities and competencies to the market, then the variety of service offerings could decline appreciably. Customers would lose the opportunity to have the full range of choices of telecommunications carriers.

Eliminating the benefits of competition would raise prices for given levels of services and result in lower net benefits to consumers and reduced access to services. Eliminating the incumbent LECs as effective competitors would foreclose their providing the full benefit of their experience to the marketplace. That forgone participation in the

marketplace could reduce the vigor and extent of competition as companies enter the market. Although entrants will compete vigorously for a share of the telecommunications market, the full participation of the incumbent LECs would further stimulate such competition.

Disincentive to Investment

Removing the returns to investment and denying the specific recovery of past investments would cause the incumbent LEC to reduce or eliminate the construction of transmission and switching facilities that are necessary to supply telecommunications services. That disincentive to investment would halt or slow the growth of existing networks and could reduce maintenance expenditures and delay the upgrading of transmission technology. Although competitors could be expected to supply some of the needed transmission technology, the extent of such supply of new facilities will depend critically on the pricing of unbundled network elements and wholesale services; even if competitors do become facilities-based entrants, the market would again be denied the benefits of having the incumbent LECs present as substantial and experienced rivals. Without a fair return on investment, the incumbent LECs would not continue to build facilities to accommodate growth in demand for their services; nor would the incumbent LECs enhance the capabilities of those facilities to respond to changing customer transmission requirements.

Utilities will participate in providing services only where they have an economic incentive to do so—that is, they will supply services only where they can earn a competitive return. If the competitive rules were to deny the incumbent LEC a fair return, those rules would impair the LEC's ability to compete and remove its incentive to participate in some types of service. With reduced market participation by the incumbent LEC, customers would have fewer choices of suppliers for particular services.

The investment in and maintenance of facilities entails economic costs—both operating costs and investment costs—including a fair return to invested capital. Reducing the earnings of the firm such that it could not earn a fair return on its invested capital would be a myopic policy that would prevent the firm from financing its maintenance and quality-enhancing activities.

One might argue that because capital facilities are nonrecoverable or sunk costs, the incumbent LEC would continue to operate as long as it had earnings that equal or exceed its operating costs. Could not the incumbents depreciate or "write off" all nonrecoverable capital costs already incurred without harming the incentives for continued operation?

That perspective assumes that, once in place, capital facilities continue to provide services without a continual need for maintenance, upgrading, and eventual replacement. If deprived of a return to capital facilities after capital has been sunk in irreversible investments, or if faced with reduced returns to such investments already made, any economically rational company will have the incentive to eliminate or reduce future capital investments of a like nature. Instead, the company will invest in more promising telecommunications ventures in Chile or New Zealand or Hungary. Such elimination or reduction of investment would diminish the quality of service for customers relying on the incumbent LEC's obligation to serve.

The incumbent LEC invests not only in facilities and maintenance of service quality, but also in the creation and deployment of innovative services. A firm invests in the risky process of product innovation only if it anticipates positive expected earnings on its new or enhanced services. The incumbent LEC also invests resources in "process" innovation—that is, in efficiency-enhancing or cost-reducing innovation. If it cannot obtain those returns to innovation, the incumbent LEC would have a reduced incentive to devote those resources to product and process innovation.

*Summary of the
Economic Incentive Principle*

The economic incentive principle implies that, if regulators do not allow incumbent utilities the opportunity to recover their stranded investment or the costs of satisfying additional regulatory requirements, then the service and investment incentives of those utilities will be severely impaired. In designing competitive rules, regulators should take account of the consequences caused by denying incumbent utilities the economic incentives to carry out their obligations to serve, to maintain quality of service, to raise capital for investment, to innovate, and to participate actively in deregulated telecommunications and energy markets. Without such incentives, one cannot expect utilities to continue making investments in regulated services. Moreover, regulators must honor their obligations to allow utilities a competitive rate of return on investments made to carry out regulated service obligations.

It is in the regulator's interest to renegotiate the regulatory contract only in a way that makes customers better off while maintaining economic incentives for the utility providing regulated services to continue investing in those services and preserving economic incentives

for the investors who supply the utility with capital. That objective requires the regulator to enlist the support of the incumbent utilities in the transition to competition because they provide substantial transmission facilities and other network facilities for use in the competitive market, and they bring expertise and experience obtained from operating those facilities. If the regulator fails to give due regard to the recovery of stranded investment, he may inadvertently delay or forfeit the full economic gains from competition.

By adhering to the economic incentive principle, the regulator will ensure that he will not precipitate a reduction in the quality of service, that he will maintain incentives for innovation, that his policies will not elevate the incumbent LEC's cost of capital, and that one class of customers will not shift costs to core customers during any transition period. Continuing service requirements imposed on the incumbent LECs, particularly the obligation to provide unbundled network access, should be priced in a fashion that maintains the incumbent LEC's incentives to provide service. To do so requires compensating the incumbent LEC for all of its continuing and future regulatory obligations to serve, including its universal service obligation. As chapter 9 explains, if the price of unbundled network elements cannot provide the incumbent LEC with the level of contribution necessary to recover its forward-looking shared costs and common costs, then the regulator must implement a competitively neutral, nonbypassable end-user charge that is sufficient to offset the operating deficit that the incumbent LEC will incur on a going-forward basis. Similarly, the regulator must adopt a competitively neutral, nonbypassable mechanism that gives the incumbent LEC the reasonable opportunity to recover the substantial capital that it invested *before deregulation* to fulfil its obligation to serve, along with a competitive return on that invested capital.

By preserving economic incentives for the incumbent LEC, the regulator will not have an incentive to behave opportunistically by unilaterally rewriting the regulatory contract. Competitive rules should not deprive the incumbent LEC of the opportunity to earn a fair rate of return on its investments made to satisfy past, continuing, and future regulatory obligations.

THE EQUAL OPPORTUNITY PRINCIPLE

To achieve the economic benefits of competition, regulators must give the incumbent LEC an opportunity to compete that is equal to that given entrants. To do so requires modifying or eliminating regulatory rules that

fall unevenly on the incumbent and the entrant, including rules that prevent the incumbent and the entrant from exercising the same flexibility in pricing, service offerings, investment, and choice of technology. The *equal opportunity principle* requires regulations to fall evenly on entrants and incumbents. That principle has two closely related implications. First, regulatory requirements imposed on the incumbent LEC that the regulator wishes to continue when the market is opened to competition should be imposed on all entrants. Second and conversely, the regulator should extend any flexibility and freedom from regulation that entrants possess to the incumbent LEC by removing the pertinent regulations that apply exclusively or disproportionately to the incumbent LEC.

Regulations create costs and constraints for market participants. Regulations that favor incumbents over entrants will create regulatory *barriers to entry* that reduce market competition and potential entry. That situation can create inefficiencies in the protected market, with or without regulatory safeguards, in comparison with the outcome of a competitive market. Government regulation that takes the form of rules applying unevenly to incumbents and entrants can create additional costs for entrants. Government regulation can also restrict market entry outright, so much so that George J. Stigler referred to licenses as "absolute barriers to entry."⁴

In contrast, regulations that favor entrants over the incumbent limit the incumbent's ability to compete, and thus they create *incumbent burdens*, as chapter 2 discusses. Deregulation requires the removal of utility regulations that are not imposed on entrants, including continuing obligations to serve, liabilities undertaken in response to regulatory requirements or in reasonable expectation of a continuation of regulatory policy, and restrictions on the utility's pricing and its product and service offerings. Incumbent burdens provide incentives for inefficient bypass of the incumbent's transmission facilities by taxing the incumbent and by creating corresponding subsidies for entrants.⁵ As one of us has previously noted:

The benefits of entry, including survival of low-cost producers and efficient pricing, may not be achieved if the incumbent must satisfy

4. GEORGE J. STIGLER, *THE ORGANIZATION OF INDUSTRY* 123-25 (Richard D. Irwin, Inc. 1968).

5. See Paul W. MacAvoy, Daniel F. Spulber & Bruce E. Stangle, *Is Competitive Entry Free?: Bypass and Partial Deregulation in Natural Gas Markets*, 6 *YALE J. ON REG.* 209, 228 (1989).

regulations not imposed on entrants. Costly duplication of capital facilities may occur. Loss of economies of scope may create welfare losses for the remaining customers served by the incumbent firm. Thus, deregulation does not merely require competitive opportunities for entrants; it also requires an equal lifting of restrictions placed on established firms.⁶

To satisfy the equal opportunity principle requires designing regulatory rules that create neither undue entry barriers nor incumbent burdens.

Accordingly, regulators should eliminate any incumbent burdens that impose costs that entrants do not bear. Any continuing obligations to serve that incumbents currently shoulder should be shared equally with competitors or eliminated entirely. The regulator should not impose new asymmetric liabilities on the incumbent in response to regulatory requirements or in anticipation of a continuation of regulatory policy; if such new liabilities are absolutely necessary, the regulator should design them to impose equal costs on the incumbent and entrants. Finally, the regulator should remove or redesign regulations to guarantee that the incumbent has the same regulatory flexibility in terms of pricing and service offerings that entrants have. If regulators constrain the incumbent's ability to compete, they will not secure for consumers the full benefits of competition.

*The Economic Basis for Achieving
the Benefits of Competition and Entry*

Regulators can achieve the economic benefits of competition and entry only if all companies have an equal opportunity to compete. Competition means that the most efficient and creative firms prosper. The market cannot be expected to discover the best competitors unless all companies begin on an equal regulatory footing. We consider now the economic benefits of competition—lower prices, cost efficiency, product variety, and innovation—and explain why regulators must follow the equal opportunity principle to achieve those benefits. Eliminating regulations also creates direct benefits, including more efficient investment, lower administrative costs, flexibility in pricing and product offerings, and elimination of cross-subsidies in pricing.

The incumbent LEC is an important competitor with technological experience, management expertise, knowledge about customers in its

6. DANIEL F. SPULBER, *REGULATION AND MARKETS* 624 (MIT Press 1989).

service regions, ready access to financial capital, and transmission facilities. To deprive the market of the incumbent LEC's services and expertise would reduce competition. That outcome would disadvantage consumers and reduce the competitive stimulus to entrants. Regulators should not design competitive rules to eliminate the incumbent LEC from any part of the market, for that would waste valuable expertise, technology, and transmission facilities. Moreover, it is not necessary to limit the incumbent LEC's ability to compete as a means of encouraging new entry. As in any other business, the market returns that can be earned by providing telecommunications services are reward enough to encourage entry. Placing restraints on the incumbent LEC that confer an advantage on entrants does nothing but impede competition.

*The Incumbent Should Have the Same
Pricing Flexibility as Entrants*

When companies compete to provide local telecommunications services, prices are driven down toward costs. Regulators, however, will not achieve the full benefit from competition if they continue price controls on the incumbent. The maintenance of price controls—not only price caps, but also price floors—prevents the incumbent from responding competitively to the price offers of entrants. That minimum-price constraint can prevent the incumbent's participation in important market segments, for the constraint provides an umbrella under which entrants can price without fear of retaliation from the incumbent.⁷

Price constraints on the incumbent also effectively discourage competition. It is well known that in price regulation "a ceiling can become a floor and a floor can become a ceiling." With regulatory price floors set on the incumbent, entrants could price just below the floor, tacitly coordinate their prices, and capture customers from the incumbent while avoiding competition among themselves. Eliminating the incumbent's price floor injects the incumbent into the market as a credible rival and allows the market price to fall freely, as true competition requires.

Price caps will discourage competition as well if regulators maintain them for the incumbent but do not require them for entrants. If a price cap prevented the incumbent from recovering its full economic costs, the cap could induce the incumbent to exit the market segment covered by

7. For an analogous assessment of the untoward consequences of the FCC's asymmetric regulation of AT&T in the interexchange market, see PAUL W. MACAVOY, *THE FAILURE OF ANTITRUST AND REGULATION TO ESTABLISH COMPETITION IN LONG-DISTANCE TELEPHONE SERVICES* (MIT Press & AEI Press 1996).

the cap (if the firm were permitted by law to do so), again depriving the market of an important competitor.

Further, a price constraint imposed on an unbundled service should not allow an entrant to offer the service as part of a bundle that competes effectively with the incumbent's bundled service strictly because of the price constraint. Unbundling should not imply that regulation prevents the incumbent from offering any bundled services; rather, unbundling should merely enable entrants to have access to components of the incumbent's bundled service. If there are competitive markets for those components, then regulators should eliminate the price constraints. In any case, if prices for components continue to be regulated, then they must allow the incumbent to recover its costs. Otherwise, if entrants can buy the components in a way that is uncompensatory for the incumbent, the result will simply be an income transfer from the incumbent's shareholders to the entrants' shareholders and the exit of the utility from market segments, again reducing the vigor of competition.

To increase profits and to achieve competitive advantage, companies continually strive to lower their costs and prices. They do so by acquiring new technology and by deploying their technology in the most efficient manner. Price caps and sharing rules are meant to provide incentives for regulated firms to improve cost efficiency because companies can retain a share of their cost savings from cost-reducing investment.⁸ Price caps and sharing rules lose some of their incentive properties, however, if applied in a competitive market. The reason is that, if the incumbent utility must share the gains from investment while competitors may retain all their earnings, then the incumbent will have a relatively smaller incentive to provide the service. The sharing rule will function as a tax on the incumbent utility's earnings, thus reducing the incumbent's return on investment in comparison with that of competitors. Sharing rules should be eliminated so that the incumbent LEC and entrants have equal incentives to reduce costs, invest, expand, and compete for customers.

*Limits on Pricing Flexibility Can Create
Inefficiencies in Entry and Investment*

Regulators should not constrain the incumbent's price responses to entry to a greater extent than do the antitrust laws already. The incumbent

8. See generally DAVID E. M. SAPPINGTON & DENNIS L. WEISMAN, *DESIGNING INCENTIVE REGULATION FOR THE TELECOMMUNICATIONS INDUSTRY* (MIT Press & AEI Press 1996).

utility faces a set of incumbent burdens associated with the regulatory rate structure. Those burdens concern the *horizontal* rate structure (the relative rates charged to the utility's customer classes) and the *vertical* rate structure (the relative prices for network components and retail services). Entrants are free to set prices as market conditions change and to negotiate contractual agreements and discounts with individual customers. In contrast, the utility must file tariffs with the regulator and charge prices that are nondiscriminatory. Regulated rate structures therefore constrain the timing and substance of the price responses available to the incumbent once competition begins.

The utility's rate structure generally is based on cost allocation rules that determine the relative prices charged to various customer groups; or that rate structure contains price caps that continue to reflect past cost allocation rules. Those cost allocation rules often entail cross-subsidies. As chapter 2 explains, a regulated break-even rate structure is said to be free of cross-subsidies only if the revenues from each service, or combination of services, are less than or equal to the stand-alone cost of that service or combination of services. Under cost-of-service regulation, with a break-even rate structure, business customers are subsidizing other services if the revenues from business customers exceed the stand-alone costs of serving those customers. In that case business customers would be better off if they were to receive stand-alone service. Therefore, the presence of cross-subsidies provides opportunity for bypass of the incumbent's network. A stand-alone entrant can undercut the incumbent's rates and serve major customers while still earning economic profit.

The existence of cross-subsidies across customer classes creates incentives for bypass. Customers contract with entrants and bypass the facilities of the incumbent. At least initially, entrants serve those customers who had provided cross-subsidies. That selection bias in the class of customers served by entrants can lead to uneconomic bypass. The incumbent's facilities may be able to serve the market at least cost. But because regulation distorts relative prices across the incumbent utility's customer classes, the prices charged some customer classes do not reflect the incumbent's cost advantage. That artificial disparity between cost and regulated price allows some types of inefficient entry to occur that a competitive market would not tolerate. Total industry capacity may be excessive as a consequence. The industry's total costs of service can rise because the incumbent's facilities are not priced competitively and thus are employed below their most efficient scale of operation.

If rate restrictions remain on the incumbent LEC, then the outcome that results when regulators open the local telecommunications market to

competition will not necessarily be efficient. The rate structure will prevent the incumbent LEC from responding to competition. That problem is exacerbated by cost-of-service regulation that is based on recovery of sunk costs or by incentive regulation that continues to reflect embedded-cost components. Valuation of the rate base using historical costs, rather than market value, further increases the distortion. Moreover, if the regulated utility faces a two-tier market divided into core and business customers, with price restrictions remaining in both market segments, its pricing decisions in the business market will be affected.

*The Regulator Should Eliminate
Vertical Cross-Subsidies*

The incumbent LEC's rate structure also contains vertical cross-subsidies: Some components, functions, or elements of telecommunications services are sold below cost and receive subsidies from other components or elements. For transfer revenues to be free of vertical cross-subsidies, the transfer revenue for a service must not exceed its stand-alone cost and must cover the incremental cost to the vertically integrated firm of producing the service.⁹

Suppose that a firm uses an input X to produce a retail service Q . Let $C(X)$ be the stand-alone cost of producing X . Let $C(Q)$ be the cost of producing Q by using the input X , but excluding the cost of producing the input X . Finally, let C be the total cost to a vertically integrated firm of producing both the input X and the final service Q by using the input X . Then, the transfer revenues must not exceed the stand-alone cost of the input, $C(X)$. Moreover, the transfer revenues must be greater than or equal to the incremental cost of the input to the vertically integrated firm, which equals C minus $C(Q)$.

Clearly, the regulated revenues from the final service should equal the total cost of providing the final service. Suppose that the input and the final service are unbundled, so that a purchaser buying the final service pays the sum of two charges. Then, if transfer revenues are subsidy-free, the separate charge for the final service cannot exceed the stand-alone cost of providing the downstream service (excluding the cost of the input). Moreover, the separate charge for the final service must be greater than or equal to the incremental cost of producing the final service for the vertically integrated firm.

9. That concept is defined formally in SPULBER, *supra* note 6, at 120.

Using the same notation as above, the separate revenues for the downstream service are less than or equal to the stand-alone cost. Then, the transfer revenues must not exceed the stand-alone cost of the output, excluding the cost of the input, $C(Q)$. Moreover, the transfer revenues must be greater than or equal to the incremental cost of the output to the vertically integrated firm, which equals C minus $C(X)$.

*Unbundling Requirements Should
Not Create Incumbent Burdens*

Most products and services, from automobiles to piano lessons, are bundles of attributes or features. Customers also benefit from the convenience of purchasing a range of products and services from the same supplier that offers lower transaction costs through "one-stop shopping" and bundling of products and services. Companies compete by offering creative packages of goods and services that enhance customer convenience. Regulations on the incumbent LEC that prevent it from bundling, or that deny it access to services that are an important component of the product bundle, block incumbent entry into the market and can reduce the vigor of competition in such services.

If the incumbent LEC cannot provide interexchange services, for example, other firms will be able to resell bundles of services that include interexchange services without facing competition from the LEC. The interexchange carrier that bundles services will bid away customers by offering the convenience of one-stop shopping, not because the carrier has any inherent competitive advantage in providing local exchange services—or interexchange services for that matter. Rather, the competitive advantage is due to regulations that impose asymmetric unbundling requirements: The incumbent LEC cannot offer such a bundle while the interexchange carrier can. As a consequence, seemingly neutral unbundling requirements determine the outcome of competition. Moreover, the unbundling requirements become onerous when coupled with quarantines on the incumbent LEC that prevent its resale or provision of interexchange services. The result is a diminution in competition for a broad range of services relative to a market in which the incumbent LEC has an equal opportunity to compete.

Besides harming competition, asymmetric unbundling requirements are necessarily arbitrary. Excessive unbundling eliminates the benefits of reduced transaction costs from bundling features that increase consumer convenience. Furthermore, standardized bundles of product features and services lower the marketing and sales costs of the supplier, thus creating

cost efficiencies. Forced unbundling is not a means by which regulators can replicate the functioning of competitive markets. To the contrary, because bundling is a standard aspect of competition, forced unbundling can achieve precisely the opposite result—it will eliminate product and service bundles that would have been offered in an unregulated market.

Unbundling of services is inconsistent with cross-subsidies. A regulator who orders unbundling cannot maintain cross-subsidization through geographic rate averaging or other rate-structure distortions such as business-to-residential cross-subsidies. Without limits, unbundling will eliminate the distinction between flat-rate and usage-sensitive pricing. Entrants will invariably purchase below-cost services and network elements and then provide their own bundled or unbundled services in competition with above-cost services. As a consequence, the incumbent will inevitably incur losses that will exacerbate the problem of stranded investment. As we have emphasized, cross-subsidies are an incumbent burden that can induce inefficient entry. Coupled with unbundling, cross-subsidies effectively disable the incumbent's ability to compete. To pursue a consistent deregulation strategy, the regulator must couple any unbundling policy with rate deregulation in the appropriate services that supply or receive cross-subsidies.

Elimination of Restrictions on Service Offerings by the Incumbent LEC

Competitive companies increase their returns by offering customers differentiated products. Customers benefit from greater product variety because they can purchase products that are better tailored to their preferences. Restrictions placed on the types of products and services that the incumbent LEC can offer again deprive the market of a potentially effective competitor. Although other competitors eventually may fill gaps in product and service offerings, consumers will lose the near-term benefits of such vigorous competition from the incumbent LEC.

Competition creates dynamic efficiencies as companies invest in research and development of new production processes that lower costs and deliver enhanced services with higher value to consumers. Regulations that limit the incumbent LEC's ability to compete, however, will reduce or eliminate that firm's incentive to invest in innovation, which in turn will create opportunities for entry and growth of competitors. The market will not achieve its full potential for consumers if regulation discourages the innovative contributions of the incumbent LEC.

A competitive market can exacerbate the unintended consequences of regulation. As chapter 3 explains, the Modification of Final Judgment (MFJ) contained a line-of-business restriction that prevented any regional Bell operating company (RBOC) from providing long-distance service from one local access and transport area (LATA) to another; the Department of Justice attempted to justify that restriction as a means of enhancing competition in the long-distance market.¹⁰ That restriction, however, had the unintended (but, in retrospect, entirely predictable) consequence of reducing competition in the long-distance market; and unless the successor provision in section 271 of the Telecommunications Act of 1996 is construed in a more competitive manner, it will have the effect of also impairing the incumbent LEC's ability to compete in local exchange, much to the detriment of consumers.¹¹

Rate regulation that creates cross-subsidies and other constraints on the pricing of the incumbent LEC place it at a disadvantage relative to entrants. To achieve the benefits of competition, regulators must give all competitors equal pricing flexibility. If allowed to persist, cross-subsidies built into the incumbent LEC's rate structure will encourage entrants to target the incumbent's above-cost customers in the markets for intraLATA toll services, switched access, vertical features, and the like. The incumbent LEC would be unable to change its regulated rate structure in response to such targeted entry, and its shareholders would be forced to absorb the economic loss arising from reduced revenues and fewer customers.

Quarantines, such as those contained in the MFJ and continued in the "checklist" provisions of section 271 of the Telecommunications Act of 1996, could prevent the RBOCs from offering competitive service packages. Interexchange carriers entering the local exchange market may bundle the RBOCs' local exchange services (purchased on an unbundled or wholesale basis) with their own long-distance service and thus offer their customers one-stop shopping. In other words, an interexchange carrier could package its own interLATA service with an RBOC's local exchange service that had been sold at wholesale (or recreated through the recombination of unbundled network elements) at less than that service's true economic cost. Given the prohibition against a public utility's unilaterally modifying its rate structure, that asymmetric ability to bundle services would place the RBOC at a severe competitive disadvantage. Regulators should not permit that distorted version of

10. See MACAVOY, *supra* note 7, at 175-212.

11. 47 U.S.C. § 271.

competition to obtain. Regulators should prevent an entrant from exploiting the horizontal subsidies that regulation has imposed across the incumbent LEC's services, as well as the vertical cross-subsidies built into the LEC's regulated transfer prices.

The regulatory obligation to serve should not unevenly distribute the burden of the social objectives of regulation between the incumbent LEC and entrants. Entrants generally can establish their own service areas, which allows them to target pockets of high-volume customers within the incumbent LEC's service area while neglecting less profitable customers in rural or high-cost locations. Meanwhile, the incumbent LEC retains the burden of serving those customers whom entrants find unprofitable to serve.

Regulators should carefully specify an entrant's service requirements. If an entrant's application to the regulator to provide local exchange service specifies a class of customers that the entrant intends to serve, and all customers outside that class could be denied the entrant's service regardless of their proximity to the entrant's facilities, such selectivity in the entrant's offering of service would disadvantage the incumbent LEC in favor of entrants. Again, entrants would provide service only to the most profitable customers and would leave the high-cost, low-volume users to be served by the incumbent LEC. The regulator should therefore create symmetric service obligations or provide a common fund to compensate the incumbent LEC for the full costs of satisfying its universal service obligation.

Another burden that the incumbent LEC shoulders is to serve as the carrier of last resort. Mandating that the incumbent LEC alone act as the carrier of last resort forces the firm to hold capacity in reserve to meet demand at peak load. An entrant, however, need not hold capacity in reserve because it does not serve as the carrier of last resort; the entrant can simply purchase capacity for resale from the incumbent LEC at peak demand. The entrant thus benefits from the implicit form of insurance provided to its customers without charge by the incumbent LEC's standby service.

Unless the regulatory framework adjusts to actual and impending competition, it can create incumbent burdens that artificially place the existing utility at a competitive disadvantage. The regulator should eliminate those asymmetric rules and avoid adopting new ones that deny the incumbent an equal opportunity to compete. For example, the lesser degree of pricing flexibility allowed the incumbent LEC enables entrants to adjust their prices in response to changing market conditions much faster than can the incumbent. That difference is a regulation-induced

competitive advantage for entrants that comes at the incumbent's expense. In addition, regulators typically do not require entrants to provide cost studies to support their proposed rates, even though the incumbent LEC must provide such studies. Entrants derive an additional competitive advantage over the incumbent by virtue of their unreciprocated access to its cost studies. Furthermore, without proper safeguards applied equally to all local exchange carriers, entrants (which will include established firms such as AT&T and Time Warner) can exploit the regulatory constraints on the incumbent LEC in their design of pricing programs and service offerings. For example, the cost-study requirements borne by the incumbent LEC create delay that entrants can easily exploit in marketing new services. Unencumbered by those rules, entrants could be performing market research on new products while the incumbent LEC was still awaiting the regulator's permission.

The equal opportunity principle is essential to achieving the full benefits of competition. Regulators should dismantle incumbent burdens and remove regulations that impede the competitive flexibility of the incumbent LEC relative to entrants, including pricing flexibility and choice of service offerings. Regulators should allow the incumbent LEC the same flexibility in bundling services that is available to the entrants, for differences in the ability to bundle confer significant competitive advantages. Regulators should not mandate the unbundling of the components of demonstrably competitive services, for competitive markets suffice to determine the efficient extent of unbundling. Unbundling should not be an end in itself, for bundling products and services reduces customer transaction costs and enhances convenience. Numerous combinations and permutations on modes of access to local network services are not necessary to achieve regulatory objectives. Regulators should equitably distribute the obligation to serve among all competitors in the market, including the obligation to be the carrier of last resort. By pursuing those steps toward assuring equal opportunity in the marketplace, regulators will avoid creating or perpetuating incumbent burdens that entrants can evade and thereby achieve an artificial competitive advantage.

*Caveats Concerning the Evolving
Standard of Universal Service*

The Telecommunications Act of 1996 codified and expanded the concept of universal service to be an evolving standard that advances with new

technology.¹² If, as a matter of social policy, it is decided that a particular group of consumers should be subsidized in their use of interactive broadband services, it is preferable for government to fund those subsidies explicitly through its power to tax and appropriate funds from the public treasury. Regulators should resist the temptation to fund the subsidies by distorting the prices charged other consumers of interactive broadband services.

Some of the most notable statements by senior policymakers concerning telecommunications policy have referred to "information haves" and "information have-nots."¹³ Those remarks imply that any disparity in access to interactive broadband services must be avoided as part of a technologically revised policy of universal service. There are several risks in viewing universal service through that lens. First, it is doubtful that, relative to private firms, government policymakers will have superior knowledge of the interactive broadband services that consumers will ultimately demand. If we do not even know what the "information haves" are likely to demand, the government can hardly know what to prescribe to improve the relative standing of the "information have-nots."

Second, consumer tastes are heterogeneous across the population. Consequently, it does not necessarily reflect a failure of government policy or an inequitable distribution of income that some consumers demand sophisticated communications products while others do not. Forcing all consumers to receive the same package of services is likely to cause providers of interactive broadband services to gravitate to the lowest common denominator. The result will be that interactive broadband services will be less diverse and less responsive to niche markets.

Third, the "information have-nots" may lack other important resources that impede their economic advancement, such as literacy, education, and work experience. If so, then the substantial cost of subsidizing interactive broadband access to their homes may actually divert the public's attention and financial resources from other policies that would materially improve conditions for those persons in a shorter period of time. It may be counterproductive as well as foolhardy to oversell the ability of the information highway to cure social ills.

12. 47 U.S.C. § 254. This discussion draws upon Robert W. Crandall & J. Gregory Sidak, *Competition and Regulatory Policies for Interactive Broadband Networks*, 68 S. CAL. L. REV. 1203, 1217-20 (1995).

13. Edmund L. Andrews, *The Media Business: New Plan for Phone and Cable*, N.Y. TIMES, Dec. 22, 1993, at D1 (reporting speech by Vice President Albert Gore).

Fourth, if universal service becomes the predominant public policy concern regarding the deployment and operation of interactive broadband networks, regulators may inadvertently foreclose the possibility of intermodal competition among rival networks in their attempt to use the information superhighway as a tool to redistribute income. A report by McKinsey & Company speculated how that state of affairs could arise:

[T]he [Clinton] Administration has . . . stressed the need for universal access as a way to avoid the segregation of society into information "haves" and "have nots." This goal is likely to conflict with facilities-based competition. Market forces may well lead to the early deployment of two full-service networks in affluent areas, but preclude investment in costly-to-serve rural areas or impoverished inner-city neighborhoods. As the potential for conflict becomes more apparent, there may be a shift in regulatory policy toward a more heavily regulated, "one wire" approach, which avoids redundant investments in a second broadband network and gives greater emphasis to the policy objective of universal access.¹⁴

From the perspective of maximizing consumer welfare, it would be regrettable if the commitment to empowering disadvantaged segments of the population were to have the unintended effect of denying *all* segments of the population the substantial benefits that would flow from having two or more facilities-based providers of interactive broadband services rather than one.

Summary of the Equal Opportunity Principle

On the basis of the equal opportunity principle, regulators should restructure regulation to ensure that all competitors enter the market on an even regulatory footing. Regulators should dismantle any incumbent burdens that deprive incumbent utilities of an equal opportunity to compete. For example, if regulators insist on market intervention to achieve universal service objectives, they should create a common fund, with equitable contributions made by all competitors to cover the cost of such service. Moreover, it is essential for regulatory commissions to eliminate horizontal and vertical cross-subsidies and to grant incumbent utilities the same pricing and service flexibility offered to competitors.

14. John Hagel III & Thomas R. Eisenmann, *Navigating the Multimedia Landscape*, MCKINSEY Q., June 22, 1994, at 39.

THE IMPARTIALITY PRINCIPLE

If regulators follow the economic incentive principle and the equal opportunity principle, they will establish the preconditions for achieving competition. Regulators will then face the challenge of making policies as market forces begin to supplant regulatory oversight, whether in the form of traditional cost-of-service regulation or incentive regulation. Society can realize the benefits of competition and deregulation only if regulators remain above the fray and decline, even in the face of unanticipated developments, the invitation of market participants to direct the outcome of competition. Regulators should take the initiative to "sunset" portions of regulation and exercise their full statutory authority to forbear from regulation. In so doing, regulators will allow competition and customer choice to determine market outcomes rather than administrative bargaining and rulemaking.

Once all market participants receive from regulators an equal opportunity to compete, what should happen after deregulation occurs and competition continues to increase? For markets to function properly, government cannot direct the outcomes without incurring high administrative costs and constraining customer choice and company innovation. The *impartiality principle* is therefore a fundamental component of public policy: Regulators should not "pick winners" in terms of technology, products and services, companies, or market institutions.

Deregulation should not be viewed as a type of industrial policy in which the government attempts to dictate or even gently nudge market outcomes, favoring one technology or mode of transmission over another. Regulators should not create artificial boundaries between modes of transmission, or artificial distinctions between services, customers, or carriers. Moreover, the deregulatory process should not be designed to favor specific services such as voice, data, or video transmission. Needless to say, the existence of the First Amendment testifies to the fact that, subject to very narrow qualifications, regulators *must* be impartial about the content of the information transmitted over the network.

By definition, the outcomes of technological innovation are unanticipated. Moreover, an important benefit of competition is that rival companies create unexpected products and services. That result is particularly salutary because neither regulators nor anyone else can easily predict the choices of individual customers. The regulator should resist the temptation to manage the rate and direction of technological innovation or to favor one mode of transmission or type of service over

another. For regulators to do otherwise could force consumers to forgo the benefits of valuable innovation.

The impartiality principle is a policy prescription that recognizes the process of "creative destruction" that Joseph A. Schumpeter described in 1942.¹⁵ He argued that the pursuit of market power is a creative, dynamic force that "incessantly revolutionizes the economic structure *from within*, incessantly destroying the old one, incessantly creating a new one."¹⁶ Schumpeter saw such rivalry as "the essential fact about capitalism."¹⁷ Creative destruction means that a firm's acquisition or possession of market power can be fleeting. In the most famous passage of Schumpeter's classic discussion on creative destruction, he wrote:

[S]ince we are dealing with an organic process, analysis of what happens in any particular part of it—say, in an individual concern or industry—may indeed clarify details of mechanism but is inconclusive beyond that. Every piece of business strategy acquires its true significance only against the background of that process and within the situation created by it. It must be seen in its role in the perennial gale of creative destruction; it cannot be understood irrespective of it or, in fact, on the hypothesis that there is a perennial lull.

But economists who, *ex visu* of a point in time, look for example at the behavior of an oligopolistic industry—an industry which consists of a few big firms—and observe the well-known moves and countermoves within it that seem to aim at nothing but high prices and restrictions of output are making precisely that hypothesis. They accept the data of the momentary situation as if there were no past or future to it and think that they have understood what there is to understand if they interpret the behavior of those firms by means of the principle of maximizing profits with reference to those data. The usual theorist's paper and the usual government commission's report practically never try to see that behavior, on the one hand, as a result of a piece of past history and, on the other hand, as an attempt to deal with a situation that is sure to change presently—as an attempt by those firms to keep on their feet, on ground that is slipping away from under them. In other words, the problem that is usually being visualized is how capitalism administers existing structures, whereas the relevant problem is how it creates and destroys them.¹⁸

15. JOSEPH A. SCHUMPETER, *CAPITALISM, SOCIALISM AND DEMOCRACY* 81–86 (Harper & Row 1942).

16. *Id.* at 83 (emphasis in original).

17. *Id.*

18. *Id.* at 83–84.

Unless government imposes artificial barriers to market entry—as it did in 1956, when an antitrust decree forbade AT&T to enter the computer business—actual and potential competitors will repeatedly challenge and inevitably supplant the incumbent. That version of competition, Schumpeter explained, “commands a decisive cost or quality advantage and . . . strikes not at the margins of the profits and outputs of the existing firms but at their foundations and their very lives.”¹⁹ Such competition, moreover, “acts not only when in being but also when it is merely an ever-present threat. It disciplines before it attacks.”²⁰ Creative destruction thus implies that basing regulatory or antitrust policy on static analysis of today’s market conditions can be seriously misleading.

If they must base regulatory intervention on predictions of dynamic trends in markets, government officials should proceed with the knowledge that their crystal ball may be just as cloudy as the one employed by the drafters of the AT&T divestiture. Government cannot ordain how the technologies of communications shall evolve, nor can government expect to remove the economic distortions that its regulations have created simply by ordering the industry to be restructured. The world’s largest providers of telecommunications and information services are now locked in a tournament to offer consumers a new generation of interactive broadband services. It would harm consumers for regulators to exclude *any* firm from that tournament. The impartiality principle envisions that the regulator will impartially permit firms to compete for the market dominance that Schumpeter described, an ephemeral dominance from which they may be unseated by the next wave of product innovation.

The Benefits of Deregulation

We have identified some of the benefits of competition. There are many additional efficiency gains that deregulation can achieve. Those benefits include *greater efficiency in entry and investment decisions*, lower administrative costs, elimination of pricing distortions, increased innovation, and greater opportunities for customer choice. Under regulation, the incumbent LEC invested in facilities to perform its obligation to serve and to achieve regulatory objectives, including the provision of universal service. The possibility that stranded costs will arise as regulators permit competition in the market for local telephony indicates that such investment may not have been economically effi-

19. *Id.* at 84.

20. *Id.* at 85.

cient—that is, it may fail to be the case that the incremental benefits to consumers exceed the incremental costs of the investment. Through their performance of prudency reviews and used and useful tests, regulators attempted to guard against inefficient investment that did not satisfy regulatory criteria. Those safeguards, however, were significantly different from a full test of economic efficiency. The deregulation of telecommunications now forces companies investing in facilities for access, switching, transmission, and other functions to subject their investment decisions to a more rigorous market test to determine whether the investment project is tailored to the task at hand and is justified by the value of the services that customers will receive.

Deregulation yields benefits by reducing or eliminating the administrative costs associated with traditional rate-of-return regulation as well as those associated with incentive regulation. In particular, deregulation obviates rate hearings, which entail costs for the regulator's staff as well as for the utilities, the intervenors for customers, and competitors. To achieve those benefits requires the regulator to reduce its oversight role in competitive segments of the formerly regulated marketplace rather than to create complex rules requiring increased intervention in market activities.

Deregulation enhances economic efficiency by eliminating cross-subsidies. Cross-subsidies cause economic losses by distorting customer decisions because prices fail to convey accurate signals about costs. Services that receive the subsidy are priced inordinately low, which encourages excessive purchases of that service and displaces potentially more efficient alternative products or services. Services that generate the subsidy are priced overly high, which discourages purchases of that service and can lead customers to seek alternatives that would otherwise not be purchased.

Deregulation promotes innovation. With many competitors' entering the market, there will be myriad competing solutions to telecommunications problems. Solutions may involve not only new technologies, but also widely differing mixtures of software, equipment, network connections, and transmission media. Under regulation, universal service requirements and an absence of competition leads to a "one-size-fits-all" approach. Regulated telecommunications providers have concentrated in large part on upgrading system capacity, enhancing reliability, and achieving the objectives mandated by regulatory commissions. In contrast, a competitive market responds to changing customer preferences and tailors capacity, reliability, and service offerings to the disparate needs of individual market segments.

Deregulation can enhance customer choices. Under the monopoly of the former Bell System, customers could purchase only basic types of telephones. The proliferation of customer premises equipment since the Department of Justice broke up AT&T and the FCC deregulated such equipment indicates how the market responds to customer requirements by offering a variety of choices and investing in research and development to widen those choices still further.²¹

For the market to innovate in such a responsive manner, and for customers to have access to a variety of telecommunications choices, regulators must have the courage and forbearance to allow multiple telecommunications solutions to emerge. Regulators should remove regulations that artificially impose distinctions on the basis of products, services, transmission modes, or content. Thus, regulators should allow twisted copper pair, coaxial cable, fiber optics, wireless, satellite, and other media of transmission to compete and combine without restriction or encouragement. Alternative types of content (including voice, data, and video) should not trigger regulatory distinctions. Firms should be neither favored nor handicapped, whether they are incumbent utilities, entrants, or new forms of service providers.

As deregulation proceeds, some urge regulators to take an activist role to manage the transition so as to "promote" or "protect" competition. That view is misguided. *Regulation should recede as competition progresses.* There is no need for regulators to promote competition because the returns that firms expect to earn from serving customers provide sufficient incentives for those firms to compete in providing telecommunications services. Indeed, the attempt to manage competition not only entails administrative costs, but also prevents the market from achieving the benefits of competition that regulators wish to attain for consumers.²²

21. See PETER W. HUBER, MICHAEL K. KELLOGG & JOHN THORNE, *THE GEODESIC NETWORK II: 1993 REPORT ON COMPETITION IN THE TELEPHONE INDUSTRY* 2.12 to 2.13, 6.52 to 6.71 (Geodesic Co. 1992); ROBERT W. CRANDALL, *AFTER THE BREAKUP: U.S. TELECOMMUNICATIONS IN A MORE COMPETITIVE ERA* 11, 88-97, 149-53 (Brookings Institution 1991).

22. Elsewhere we have written of the need to protect private firms from anticompetitive behavior by the U.S. Postal Service. J. GREGORY SIDAK & DANIEL F. SPULBER, *PROTECTING COMPETITION FROM THE POSTAL MONOPOLY* (AEI Press 1996). As we make clear in our previous book, the situation of the Postal Service is entirely distinguishable from that of a regulated investor-owned utility. The Postal Service is a public enterprise that cannot be assumed to maximize profit; the regulatory authority to which it is subject lacks the essential powers of a typical state PUC. The Postal Service enjoys not only a statutory monopoly, but also many other privileges and immunities relative to private firms.

*Regulation Does Not
Replicate Competition*

Regulators need not protect or safeguard competition. Market incentives are sufficient to allow competition to flourish. If regulators act in a partial manner, either by picking winners or by protecting less successful firms from their own inefficiency, then the benefits of competition will diminish. Moreover, antitrust laws serve to protect competition from monopolization and other anticompetitive practices. Regulatory attempts to supplant that role of antitrust law would, if anything, preempt its proper functioning.

Competition is desirable in local exchange telecommunications for the same reasons that it is desirable in any market. Competitive markets are the preferable economic mechanism for achieving allocative, productive, and dynamic efficiency. Allocative efficiency is present when goods and services are allocated to the uses in which they have the highest value. Productive efficiency is present when producers use goods and services in such a manner as to minimize costs, subject to technological constraints. Dynamic efficiency refers to decisions made over time and includes efficiencies in investment and technological innovation.

Excessive regulatory intervention during the competitive transformation of network industries often seems designed to promote competitors, not competition. That distinction should be familiar from antitrust, where the view that antitrust exists to protect "small dealers and worthy men"²³ has been replaced by an understanding that antitrust should set the rules of the game, not determine its outcome.²⁴ Markets tend to achieve efficient allocations of resources because of competition among firms. Firms compete by offering lower prices, improvements on products and services, customer convenience, product variety, marketing, and sales services. When companies offer similar products to their customers, competition tends to lower prices toward production costs, as firms bid against each other to make sales to customers. Firms face competition from other firms operating in the same market, from firms that offer substitutes for their products, and from potential entrants that will respond to the perceived needs of consumers. All of that competitive ferment happens because consumers seek to maximize their well-being

and it exercises the authority to define the scope of its own monopoly. Moreover, there is no indication that the delivery of letter mail will soon undergo a transition to competition.

23. *United States v. Trans-Missouri Freight Ass'n*, 166 U.S. 290, 323 (1897).

24. *E.g., Continental T.V., Inc. v. GTE Sylvania, Inc.*, 433 U.S. 36 (1977).

subject to their budgets and because firms seek to maximize their profit. It was in that sense that Adam Smith wrote in *The Wealth of Nations* of an "invisible hand" that guides every individual so that "[b]y pursuing his own interest he frequently promotes that of the society more effectually than when he really intends to promote it."²⁵

Competitive markets are preferable to government allocation of goods and services because they produce economic transactions at the least cost and thus allow individual customers and competitors the freedom to make economic choices. Economic analysis and historical experience conclusively demonstrate that even with its imperfections, a competitive market outperforms government regulation or central planning as a mechanism to allocate resources. Competition is the best mechanism for stimulating research and development and for resolving uncertainty about evolving technology. Technological change and uncertainty surely characterize the telecommunications industry. As Friedrich A. Hayek powerfully argued, markets create and process vast quantities of information, which necessarily would overwhelm the conscious efforts of any central economic planner.²⁶ Experience in regulated markets—from airlines to railroads to natural gas—confirms that pricing and other command-and-control restrictions imposed by regulators are associated with high administrative costs and an economically inefficient allocation of resources.

As chapter 9 explains, the Federal Communications Commission, while singing the praises of competition and market allocation of resources, promptly proposed after the enactment of the Telecommunications Act of 1996 an entirely new genre of price regulation for inputs in local telephony.²⁷ That price regulation was on a scale unprecedented in the telecommunications industry—or any other U.S. industry, for that matter. The regulation of markets for resale and unbundled network services supplants the determination of pricing and service offerings by firms competing in the market. That new form of government intervention extends regulation beyond the previous system addressing final

25. ADAM SMITH, *AN INQUIRY INTO THE NATURE AND CAUSES OF THE WEALTH OF NATIONS* 423 (Modern Library 1937) (1776).

26. Friedrich A. Hayek, *The Use of Knowledge in Society*, 35 *AM. ECON. REV.* 519 (1945).

27. *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, CC Dkt. Nos. 96-98, 95-185, 11 F.C.C. Rcd. 15,499, *stayed pending appeal sub nom.*, *Iowa Util. Bd. v. FCC*, 109 F.3d 418 (8th Cir. 1996).

telecommunications services to include new controls of the underlying factors of production. Entrants into local telephony, such as the major interexchange carriers and competitive access providers, may now urge regulators to determine how productive inputs shall be priced, provided, and employed in the production of telecommunications services. Telecommunications regulation has thus expanded to encompass control of technology, capital equipment, and other productive inputs. Contrary to the popular conception created by the passage of the Telecommunications Act, the new unbundling obligations of the 1996 legislation represent a significant and qualitative extension of regulation from outputs to productive inputs.

In the wake of the 1996 telecommunications legislation, some economists endorsed the proposition that regulators are necessary to "jumpstart" competition in the new environment of mandatory network access. John W. Mayo, for example, has argued that regulators should implement regulations that achieve competitive outcomes:

A primary goal of public utility pricing is to achieve an allocation of resources similar to that which would result in competitive markets. Because effectively competitive markets automatically generate efficient prices (the fundamental virtue of the invisible hand), it is essential that regulators understand the basic characteristics of such prices if they are to replicate competitive outcomes in regulated markets.²⁸

Thus, in Mayo's view, regulators of telecommunications markets should seek to achieve an outcome similar to that which one would observe in a competitive market. Regulators are to achieve that desired outcome, however, not by letting the forces of competition operate freely, but instead by relying upon some unspecified system of government "replication." That prescription raises two fundamental questions.

First, is a competitive allocation of resources the primary goal of regulators? There are many reasons to doubt the validity of that proposition. Economic analysis establishes that cross-subsidies in the prices offered by a company cannot survive in a competitive market. First, no firm in a competitive market would voluntarily cross-subsidize

28. Opening Testimony of John W. Mayo on Behalf of AT&T Communications of Cal., at 24, *in* Rulemaking on the Commission's Own Motion to Govern Open Access to Bottleneck Services and Establish a Framework for Network Architecture Development of Dominant Carrier Networks; Investigation on the Commission's Own Motion into Open Access and Network Architecture Development of Dominant Carrier Networks, Dkt. No. R.93-04-003, I.93-04-002 (filed Cal. Pub. Utils. Comm'n. June 14, 1996).

its own product offerings because it would sooner have an incentive to cease offering services whose incremental revenues did not cover their incremental costs. Moreover, the firm would lose customers of those services providing cross-subsidies to competitive entrants. Regulated markets, however, differ markedly from competitive markets in that the former commonly contain cross-subsidies, as regulators seek to achieve perceived fairness and other social objectives, such as universal service.²⁹ Regulated prices for local telecommunications services, for example, typically contain cross-subsidies due to geographic averaging, subsidies from business customers to residential customers, and subsidies from vertical services to basic services.

Second, could regulators "replicate" competitive outcomes in regulated markets even if they were inclined to do so? It is doubtful. Competitive markets require continual adjustment of prices and product offerings to respond to changes in customer tastes, incomes, and technological innovation. The informational requirements of such adjustments are not compatible with the costly, complex, and protracted administrative procedures that regulatory rulemaking requires. Regulators cannot be expected to react to, let alone anticipate, changes in customer preferences and supplier technology. To the contrary, excessive regulation can discourage innovation and capital investment and thus lock in obsolete technologies. In short, transaction costs and information processing costs make it unworkable for regulators to attempt to supplant or recreate competitive outcomes. To suggest that regulators can replicate the "invisible hand" of the market fundamentally contradicts Adam Smith's original point (expressed on the same page of *The Wealth of Nations*) that policymakers should not interfere with the functioning of competition:

The statesman, who should attempt to direct private people in what manner they ought to employ their capitals, would not only load himself with a most unnecessary attention, but assume an authority which could safely be trusted, not only to no single person, but to no council or senate whatever, and which would nowhere be so dangerous as in the hands of a man who had folly and presumption enough to fancy himself fit to exercise it.³⁰

Regulation is at best an imperfect proxy for competition, not a *replica* of it.³¹ Rather than attempt to replicate the market, regulators surely

29. See, e.g., WILLIAM J. BAUMOL & J. GREGORY SIDAK, *TOWARD COMPETITION IN LOCAL TELEPHONY* 24-25 (MIT Press & AEI Press 1994).

30. SMITH, *supra* note 25, at 423.

31. One of us has previously advocated with William J. Baumol that regulators should

recognize that achieving market outcomes requires removing regulatory restrictions as telecommunications markets become increasingly competitive. Expanding the scope of regulation will only make it less, not more, plausible that regulators will be able to achieve market outcomes.

Congress, the states legislatures, and regulators have opened the local exchange market to competition. If they now establish unbiased rules that allow entrants and the incumbent an equal opportunity to compete, regulators can rely on market incentives to produce competitive outcomes. Firms compete when and where they discern opportunities for profit. They compete by investing in facilities to produce goods and services. They compete by making process innovations so that prices can be lower than competitors'. They compete by undertaking research and development to provide improvements and innovations in existing products and services. They compete by differentiating their product offerings from their rivals'. Competition takes place in markets without the need for government promotion. Rather, competition is the spontaneous and natural outcome of private companies seeking to obtain a competitive return on the investment of their shareholders. There is no more need for the government actively to promote competition than there is need for it to exhort Olympic athletes to remember to compete with each other. Competition occurs because of the economic rewards that firms expect to obtain by satisfying the demands of their customers.

The Infant Industry Argument

Some assert that competition in a newly deregulated market, such as local telephony, differs from competition in other industries because the incumbent LEC has been subject to a regulated monopoly and because competition in the local exchange market is "nascent." The fact that the incumbent LEC held a regulated monopoly in the past is not an indicator that regulators need to promote competition. The fallacy of the conclusion that regulatory nurturing is necessary for competition to blossom is evident from making a counterfactual assumption for the sake of

pattern regulation according to the *competitive-market standard*, which asserts that "the regulator's task is to serve as a proxy for competition—to stand *in loco* [competitionis], preventing all actions that competition would have precluded, and requiring all courses of economic behavior that competition would have imposed." BAUMOL & SIDAK, *supra* note 29, at 28. Just as a guardian who stands *in loco parentis* cannot replicate for an orphan the essence of his deceased parents, neither can a regulator replicate the essence of a competitive marketplace. Accordingly, the first principle of the competitive-market standard provides: "Where competitive forces are adequate and effective, the regulator should eschew all forms of intervention." *Id.*

argument. Suppose that the incumbent LEC acted as a classic monopolist and withheld services, increased prices substantially, and reduced the quality of customer service. Those actions would increase the incentives for the entry of new competitors. Past monopoly, far from being a hindrance to competition, is an important stimulus to competition, as entrants seek to bid away customers by outperforming the pricing, product availability, and service quality of the former monopolist. Past monopoly requires no corrective action by regulators in terms of subsidizing, supporting, or otherwise promoting competitors.

Students of economic history will immediately recognize the "nascent competition" argument in a newly deregulated industry as a variation on the "infant industry" argument employed to justify entry barriers in international trade.³² The infant industry argument is advanced by those who believe that domestic industry should be subsidized and otherwise protected from international competitors until it grows sufficiently. The argument has little merit, and it certainly does not apply to the regulated network industries. In telecommunications the entrants into local exchange telephony include AT&T, MCI, Sprint, Time Warner, and others. They are not infants. To the contrary, those companies are notably large, well established, well funded, and innovative. They are experienced in telecommunications, and their competitive efforts are far from nascent. They do not need subsidies, assistance, or special privileges. Even relative newcomers to telecommunications are perfectly capable of purchasing the requisite equipment and obtaining the required technological and marketing expertise to pursue their objectives.

If, contrary to the weight of economic analysis, regulators choose to subsidize entrants, it bears emphasis that *that* decision in no way answers the question of who should pay the subsidy. In particular, it in no way follows logically that the subsidy must be a wealth transfer from the incumbent LEC to entrants. In the United Kingdom, for example, the regulatory body, the Office of Telecommunications (OFTEL), requires British Telecom (BT) to provide interconnection to its network to cable television systems that have telephony capabilities and compete against BT's provision of voice and data services. Although the interconnection charge includes a component representing the entrant's payment of BT's contribution to universal service obligations, the director general of OFTEL has

32. See DOUGLAS A. IRWIN, *AGAINST THE TIDE: AN INTELLECTUAL HISTORY OF FREE TRADE* 116-37 (Princeton University Press 1996). For a prescient warning of the dangers of extending the infant industry argument to deregulated industries, see Stephen G. Breyer, *Antitrust, Deregulation, and the Newly Liberated Marketplace*, 75 CALIF. L. REV. 1005 (1987).

exercised his discretion to waive payment of that "access deficit contribution" until the entrant has achieved a market share of 10 percent.³³ A subsidy financed in that manner in the United States would raise takings concerns of the sort analyzed in chapters 6 and 7. If there is to be a subsidy, it should instead be politically transparent. The legislature, for example, could explicitly subsidize entrants by paying the incumbent LEC the difference between the price and the economic cost of providing interconnection.

The interconnection charge is not the only place where regulators might attempt to impose a subsidy. If regulators force the incumbent LEC to sell unbundled network elements to competitors at prices below the economic costs of those elements (that is, below the sum of each element's incremental cost and its opportunity cost), then regulators will effect a transfer of income from the incumbent LEC to its competitors. Such pricing is neither efficient nor compensatory. Efficiency requires that the incumbent LEC price any inputs sold to a competitor at the input's economic costs, as we emphasize in earlier chapters.

Even if an infant industry argument were applicable to telecommunications (which it decidedly is not), when do such advantages for the competitors of the incumbent LEC cease? How would their duration be specified in advance? The government's commitment to ending the entrant's infant-industry status at a date certain or upon the attainment of some objective level of market penetration must be credible and binding. That political task would be difficult to accomplish, however. Consequently, the recommendations for regulatory promotion of competition appear to create open-ended commitments for the regulator. Such open-ended commitments are poorly suited to allowing regulation to recede as competition increases.

Price Caps and Competition

Policies designed to promote competition and establish prices for resale and unbundled network services do not in themselves increase competition. Instead, such policies may hinder competition. The genius of competition is that the market discovers prices. Regulating prices constrains competition by interfering with the competitive process of firms as they bid against each other to serve their customers. For regulators accurately to determine the prices that competition would produce presumes that regulators can foresee the underlying determinants

33. See Crandall & Sidak, *supra* note 12, at 1235-37.

of pricing—including demand, costs, technology, product features, and competitive strategy. Such central planning is not only incapable of setting prices efficiently, but also incompatible with competitive markets.

If regulators are concerned that competition will not be sufficiently vigorous following their removal of entry barriers, then they should rely on price caps and allow competition (if it takes hold) to set prices below the cap. Moreover, the caps should be phased out as rapidly as possible because many factors other than imperfect competition (such as rising input costs, capacity shortages, or product enhancements) can cause market prices to rise. Adjustments to price caps based on productivity and inflation indexes are unlikely to achieve the flexibility required for the regulated firm to keep pace with changing market conditions.

*Implications for the Design of Rules
Governing Access and Unbundling*

As they dismantle entry barriers, regulators should commit to curtailing their future market intervention. They should neither attempt to manage competition nor retain rules that arbitrarily favor one market outcome over another. The competitive market is an allocation mechanism that generates and uses tremendous amounts of information about the preferences and purchasing patterns of individual consumers, as well as the technology and supply patterns of many diverse competitors. Although the regulation of a franchise monopoly utility generates a large amount of technical and economic information, competitive markets that are growing and innovative generate quantities of information that are orders of magnitude greater than what any regulatory commission can assimilate. The regulator must be prepared for the increased complexity of competitive markets by withdrawing entirely its supervision and management of the pricing and other strategic decisions made in any market that is demonstrably competitive. The lifting of regulation, of course, does not mean that the incumbent LEC in a newly competitive market is freed of the antitrust laws.

The markets served by the incumbent LEC are not homogeneous. The cost of serving different market segments varies widely depending on the type of service offered, customer density, and the regulatory obligations associated with the particular service. Similarly, the revenues from various customer groups differ substantially, in large part because of the structure of regulated rates. Because of that heterogeneity of costs and revenues, the incumbent LEC faces selective entry by firms seeking to serve the high-margin customers. Such entry is undeniably competitive in the sense that it drives down the prices of certain services closer to

cost; but the selective focus of such entry results directly from government policies manifested in the rates and service obligations that the regulator has demanded of the incumbent LEC—rates and service obligations that a competitive marketplace most assuredly would *not* demand of any firm. Stated differently, regulators have imposed homogeneous pricing and service obligations across heterogeneous segments of customers. Competitive markets do the just the opposite: They allow firms to make heterogeneous supply and pricing responses to heterogeneous customer demand. Regulators should therefore eliminate the rate imbalances and service obligations that induce selective entry and thus preordain the outcome of competition.

The common name given to selective entry of markets served by an incumbent utility is “cream skimming” or “cherry picking.” For a typical incumbent LEC, 80 percent of its revenues may come from 20 percent of its customer accounts, which in turn will be concentrated in metropolitan areas. Entrants can minimize their marketing costs by focusing on those high-margin customers. Selective entry also reduces the network costs for entrants, particularly facilities-based entrants.

Selective entry is a normal method of market competition that should not be impeded. For such entry to be efficient, however, regulators should not create or perpetuate rules that impair the ability of any firm, including the incumbent LEC, to respond to that form of competition with its own flexible pricing and service offerings. Moreover, the selectivity of entrants should be based on economic considerations such as customer demand and costs of service. Selectivity should not be based on regulatory loopholes that encourage the entrant to serve only certain customers or geographic locations so as to avoid the burden of public service obligations. Entry decisions should not be strategic responses by firms to incumbent burdens that competitively handicap the incumbent LEC. Eliminating cross-subsidies and other service requirements that fall asymmetrically on the incumbent LEC will allow regulators to use undistorted market considerations to determine the pattern of competitive entry.

Impartiality further requires that regulators refrain from imposing new product and market definitions on the basis of past regulatory considerations. Perpetuating such distinctions would lead to balkanized markets and would deter both intermodal competition and technological innovation. For example, traditional regulation in telecommunications has distinguished between telecommunications services on the basis of the mode of transmission (copper wire, coaxial cable, or wireless), the type of communication (voice, data, or video), and regulatory customer class (residential or business). Markets for the transmission of voice, data, video, and other types of information will combine those types of

communication in new and unexpected ways, providing specialized services to satisfy the needs of diverse market segments comprising households and businesses. Regulators should dismantle to the maximum extent possible the artificial distinctions between types of information transmitted so as not to bias the types of products and services that firms will be free to offer to consumers.

California has provided a commendable example of regulatory impartiality by enacting legislation providing that "[t]o the extent possible, competition in intraexchange telecommunications markets shall be coincident with competition in video markets."³⁴ The statute further provides:

If any local exchange telephone company obtains the right to offer cable television or video dialtone service within its service territory from a regulatory body or court of competent jurisdiction, any cable television corporation or its affiliates may immediately have the right to enter into the intraexchange market within the service territory of the local exchange carrier by filing for approval of a certificate of public convenience and necessity, if necessary, which shall be expeditiously reviewed by the commission.³⁵

Finally, the statute specifies that the California Public Utilities Commission's standards for the interconnection of networks, network unbundling, and service quality applied to the LECs shall apply equally to cable television companies.³⁶ Thus, California's legislature stated its laudable intent that competition in video, cable television, and video dialtone should be fair in that competitors should be free to enter each other's markets and that regulations and standards should apply symmetrically.

Another area where regulatory impartiality is sorely needed concerns the boundary between local and long-distance telephony. Distinctions between interexchange, intraLATA toll, and intraexchange service, although having some basis in technology and regulatory history, have little economic foundation. Regulators should allow companies to offer the full range of services without regard to the distance traveled or the types of switches used. Indeed, the clear trend in telecommunications is to erase any distinctions among interLATA, intraLATA, or local exchange service.³⁷ Companies seek to provide connections between customers—what AT&T calls "anywhere, anytime" communications. If

34. CAL. PUB. UTIL. CODE § 709.5(b).

35. *Id.* § 709.5(d).

36. *Id.* § 709.5(e).

37. See, e.g., *A Survey of Telecommunications: The Death of Distance*, THE ECONOMIST, Sept. 30-Oct. 6, 1995 (unnumbered) (special insert).

regulators continue to impose detailed restrictions on the service offerings of incumbent LECs that do not recognize that evolution in the market, then regulators will place the LECs at a competitive disadvantage and will have effectively, albeit unintentionally, preordained the success or failure of individual firms in the market.

The same point applies to modes of transmission, including the twisted copper pair, coaxial cable, fiber optics, cellular, PCS, and satellite systems. Technological change in software and switching systems allows the near-seamless integration of networks consisting of diverse transmission elements and the connection of multiple networks with each other. An incumbent LEC must have the same flexibility as other firms to employ and combine modes of transmission in constructing networks for its services. Any artificial distinctions between modes of transmission or means of switching and routing information across networks will place the incumbent LEC at a competitive disadvantage.

Another issue of impartiality arises with respect to facilities-based competition and resale. A resale market for the facilities of any carrier is desirable for achieving efficient use of existing facilities and efficient investment in new facilities. As we emphasize in chapter 9, however, the regulator's rules for unbundling and resale must not place uneconomic requirements on the incumbent LEC. Excessive unbundling does not enhance economic efficiency. Moreover, government-mandated access to network facilities at rates that do not recover the incumbent LEC's economic costs will induce inefficient decisions by entrants concerning whether to build facilities or merely to resell services that use the incumbent's existing facilities. Overpriced services and facilities will encourage entrants to underuse existing facilities and could induce the incumbent to overinvest, whereas underpriced services and facilities will force the incumbent to subsidize entrants and could induce its underinvestment in network facilities.

Access and unbundling requirements should not require the incumbent to offer resale of any newly created products or services. The incumbent LEC should have no lesser property rights in its innovations than the rights that any other company enjoys with respect to its proprietary products and services. It is imperative to protect the incumbent LEC's right to recover the market value of its innovations—whether through the incumbent's voluntary decision to engage in resale of the innovation to competitors or by the incumbent's choice to employ the innovation exclusively. If regulators were to deny the incumbent LEC that discretion over the use of its intellectual property, resale requirements would severely reduce incentives for the LEC to invest in research and development. Such disincentives to invest in R&D would deprive the market of the

efforts of experienced and creative companies and thereby could decrease innovation. That concern has particular relevance to telecommunications, where many companies are engaged in substantial innovative efforts.

Impartiality requires that all firms involved in originating, transporting, or terminating calls be compensated on the basis of network usage and services provided. Given the complexity of network interconnection and transactions that will likely emerge in a competitive market, revenue-sharing arrangements should be the outcome of voluntary agreements between carriers, customers, and other market participants. When multiple carriers are involved in the transmission of communications, they should all receive compensation. The regulator should resist allowing traffic flow imbalances to benefit some competitors at the expense of others.

*Summary of the
Impartiality Principle*

Following the impartiality principle means that regulators should not attempt to influence the eventual outcome of competition or to micromanage the evolving telecommunications and electric power markets. Regulators should rapidly phase out their industry oversight and regulatory activities to avoid the possibility of biasing competitive outcomes. To unleash the efficiencies and innovation of competitive markets in telecommunications, for example, regulators should eliminate regulations that draw artificial distinctions between modes of transmission, types of communications, or services that are performed within or across the boundaries of a local access and transport area. It is overwhelmingly an artifact of regulatory convenience rather than economic or technological necessity that regulators continue to draw distinctions between interLATA, intraLATA, and local exchange services. To maintain impartiality and to avoid stifling innovation, regulators should avoid or limit as much as possible forced access and unbundling that will reduce the returns to innovation and competitively disadvantage incumbent carriers.

CONCLUSION

The Telecommunications Act of 1996 got off to a rocky start because federal and state regulators were reluctant to relinquish control of the industry. The result was wrangling between incumbents and entrants before regulatory commissions and in the courts, as well as disagreement between Congress and the Federal Communications Commission over

interpretation of the statute. The resulting litigation will delay the benefits that competition will bring. Federal and state deregulation of the electric power industry lies ahead. It would be unfortunate if legislators and regulators were to repeat in that industry the same mistakes being committed in the competitive restructuring of local telecommunications. We therefore propose three principles for legislators and regulators to follow to ensure that their deregulation of those two industries will indeed bring consumers the benefits of competition.

The economic incentive principle rests on the recognition that *economic gains from trade drive market transactions and that economic incentives underlie the regulatory contract as well*. If the competitive rules were to deprive the incumbent LEC of economic incentives, that outcome would harm the firm's ability to enter competitive markets, to raise capital to finance investment projects, to innovate, to provide a diversity of services offerings, and to perform its regulatory obligations.

Regulators cannot achieve the economic benefits of competition without adhering to the equal opportunity principle. They should *scrupulously design rules that create no advantage for the entrant over the incumbent, or vice versa, but instead place all competitors on an even regulatory footing*. Regulators should dismantle regulatory constraints as necessary to ensure that any opportunity or independence enjoyed by the entrants extends as well to the incumbent. The incumbent LEC should receive the same flexibility and autonomy as entrants in choosing its prices, negotiating with customers, altering service offerings, and making any other relevant business decision.

Regulators following the impartiality principle will refrain from interfering with innovative competition. Regulators should resist appeals from entrants to aid their cause by continuing to monitor competitive outcomes. *Because competition is a process of innovation, it is not possible for regulators to predict accurately the prices, products, services, technology, and network characteristics that will result*. Regulations that are dismantled should remain so. They should not be kept in reserve if the outcomes differ from regulators' expectations. Regulators must not create rules that favor particular companies, technologies, service offerings, or other market outcomes. They should "sunset" regulations in competitive segments of the local telecommunications market.

In short, by allowing economic incentives for the incumbent LEC to compete and perform regulatory obligations, by giving all firms in the *local telecommunications market an equal opportunity to compete*, and by remaining impartial as that competition progresses, regulators will attain the goal of achieving competition fairly.

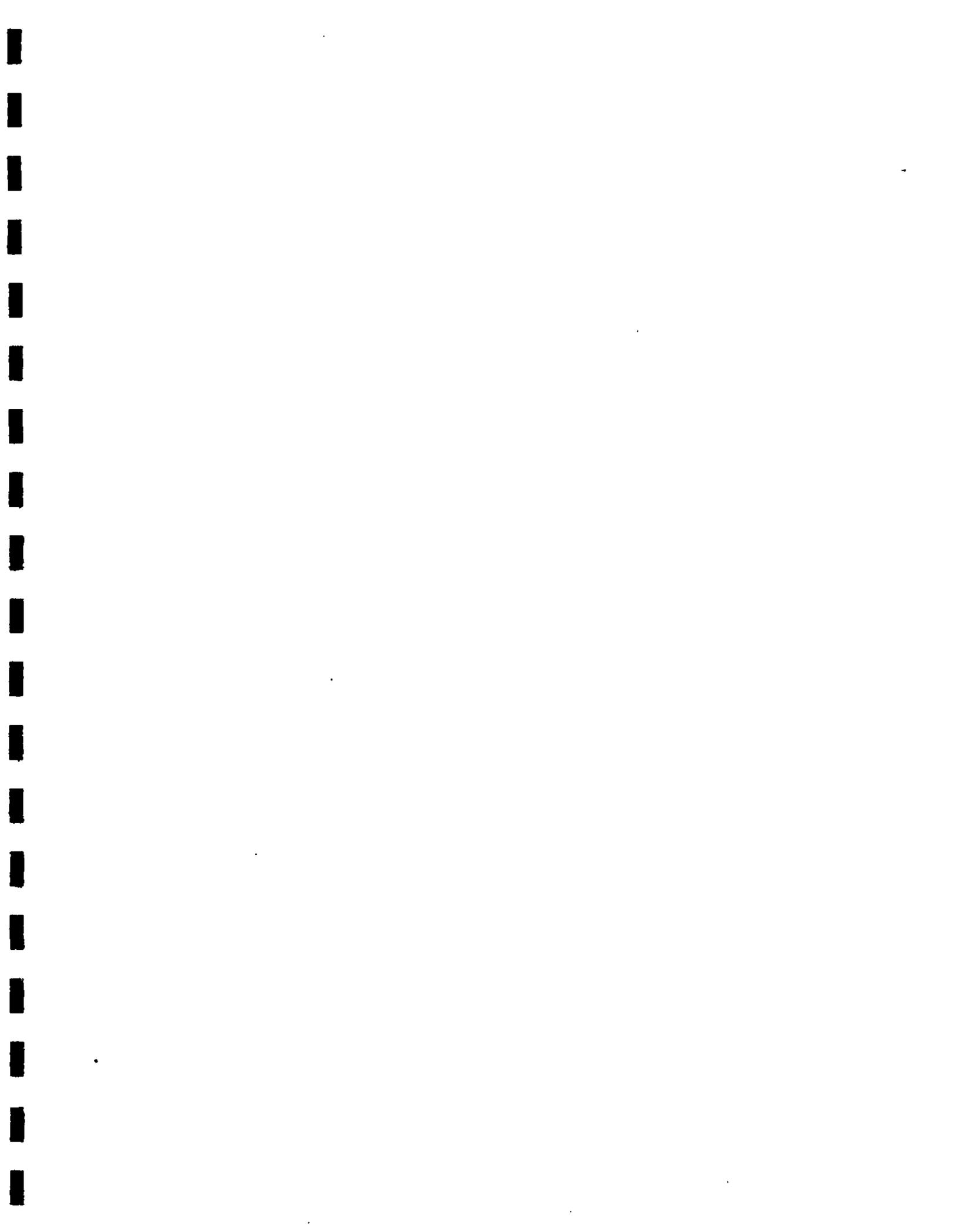


Exhibit JGS-2

Municipal Franchise Agreements
and Other Documents Evidencing
the Regulatory Contract

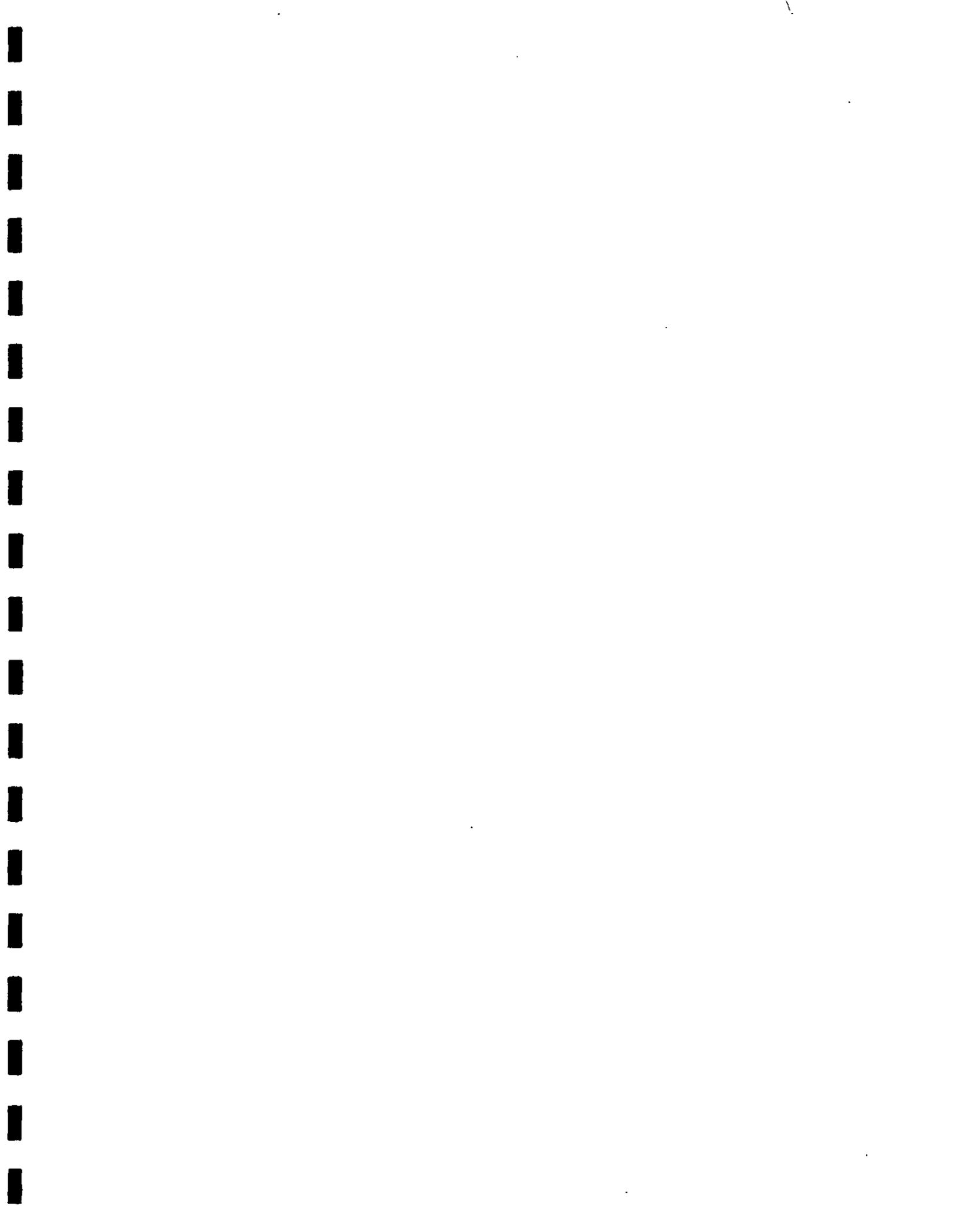


Exhibit JGS-3

Pennsylvania Legal Cases Implicative
of the Regulatory Bargain

EXHIBIT JGS - 3

Court Decisions

Lukens Steel Company v. Pennsylvania PUC, 499 A.3d 1134, 1136, n.1 (Pa.Cmwlt. 1985)("A Certificate of Public Convenience and Necessity makes it lawful for public utility to provide service within a defined territory, and imposes on the public utility an obligation to provide service in that territory.")

Barasch v. Pennsylvania PUC, 515 A.2d 651, 653 (Pa.Cmwlt. 1986)("These monies are recovered from ratepayers on the theory that they are a necessary aspect of a utility's obligation to provide public service.")

Philadelphia Rural Transit Co. v. Public Service Comm'n, 158 A. 589, 591 (Pa.Super. 1931)("A public service corporation may not 'pick and choose' only presently profitable territory covered by its franchise.")

PUC Decisions

Re: Bell Atlantic - Pennsylvania, Inc.'s Petition and Plan for Alternative From of Regulation Under Chapter 30, 1994 Pa. PUC LEXIS 142, *125 ("Bell asserts that the implicit regulatory contract that guarantees a company the opportunity to earn a specified rate of return is not possible in the competitive environment of the next decade..."); ("Under the conventional scheme of rate base and rate of return regulation, a LEC could not be expected to accept the responsibility of substantial infrastructure modernization investments without the reasonable assurance of having the opportunity to recover the value of and a fair return on such investments that were to be used and useful for the convenience of the public.")

Pennsylvania Public Utility Comm'n v. Pennsylvania Gas & Water Co., 74 P.U.R. 4th 238, 245 (Pa. P.U.C. Apr. 24, 1986) ("It is our opinion that in exchange for the utility's provision of safe, adequate, and reasonable service, the ratepayers are obligated to pay rates which cover the cost of service which include reasonable operation and maintenance expenses, depreciation, taxes, and a fair rate of return to the utility investors. Thus . . . a quid pro quo relationship exists between the utility and its ratepayers.");

Thomas C. States v. Pennsylvania Electric Co., 1995 Pa. PUC LEXIS 179, *22-23 ("Thus, Unilec possesses both the obligation and the exclusive right to furnish retail electric service to the Complainant at his residence pursuant to Section 7355 (a) of that Law. 15 Pa. C.S. § 7355 (a).")

Integrated Resource Planning for Electric Utilities, 1995 Pa. PUC LEXIS 132, *6 ("We also note that it is the utility which bears the 'obligation to serve,' thereby warranting initial utility discretion and flexibility in formulating its IRP.")

Petition of Metropolitan Edison Company, 1993 Pa. PUC LEXIS 190, *25-26 (“The Code mandates every public utility must furnish and maintain adequate, efficient, safe and reasonable service and facilities and must make improvements in or to such service and facilities as shall be necessary or proper for the accommodation, convenience and safety of its patrons, employees and the public. 66 Pa. C.S. § 1501.”)

Michelle Fiola v. West Penn Power Co., 1993 Pa. PUC LEXIS 208, *8 (“As noted above, it is the general rule that a utility ordinarily bears the cost of extensions of its facilities as part of its duty to furnish adequate and reasonable service and facilities to the public. This obligation is not necessarily dependent on any profit which a utility may expect as a result of the improvements.”)

Re Morris-Rospond Associates, 61 Pa. PUC 560, 576 (“We again conclude that under Pennsylvania law, PECO is required to provide back-up, supplementary, and maintenance electric power to all customers within its service territory, as well as providing all other types of service. Such service must be provided regardless of whether the customer obtains all its power requirements from PECO Energy Company, is a qualifying facility or is a customer of a qualifying facility.”)

Re Lukens Steel Company, 1984 Pa. PUC LEXIS 62, *12-13, 58 Pa. PUC 256 (“We perceive that when a public utility is certificated to serve a particular service area, it undertakes an obligation or duty to serve this certificated area, and from this duty flows a right to serve customers desiring service within the certificated service area.”)

Re Limerick Nuclear Generating Station, 1982 Pa. PUC LEXIS 102, * 56 Pa. PUC 47 (“The character of the service which must be provided by a public utility is defined in § 1501 of the code, 66 Pa. C.S. § 1501...”)*59-60 (“Each utility is required to provide service which is adequate, efficient, safe, and reasonably continuous. At the same time, the rates charged for that service must be just and reasonable. It is our view that this investigation goes to the very core of PECO’s ability to fulfill its obligation to render adequate service at reasonable rates...”)

Pennsylvania Public Utility Commission v. Philadelphia Electric Company, 1978 Pa. PUC LEXIS 1, *7, 52 Pa. PUC 772 (“Electric utilities are mandated to provide reliable service. First, they must serve all customers within their service area without discrimination up to the limits of their capacity, and they may even be required to increase their capacity if demand for electricity expands.”)

Pennsylvania PUC v. Philadelphia Electric Co., 1985 Pa. PUC LEXIS 67, *152 58 Pa. PUC 743 (1985)(“We believe that providing the Company a return of its investment reflects the initial prudence of the investment.”)

Pennsylvania Public Utility Commission v. Philadelphia Electric Company (Part 4 of 6), 1990 Pa. PUC LEXIS 155, *141-42 (1990)(“A utility is entitled to earn a return on its

prudent investments either by inclusion in rate base or through an allowance of an AFUDC accrual until such time that the asset is placed in rate base.”)