

2000

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Citations:

Bluebook 21st ed.

Jim Rossi, Universal Service in Competitive Retail Electric Power Markets: Whither the Duty to Serve, 21 ENERGY L.J. 27 (2000).

ALWD 7th ed.

Jim Rossi, Universal Service in Competitive Retail Electric Power Markets: Whither the Duty to Serve, 21 Energy L.J. 27 (2000).

APA 7th ed.

Rossi, J. (2000). Universal Service in Competitive Retail Electric Power Markets: Whither the Duty to Serve. Energy Law Journal, 21(1), 27-50.

Chicago 17th ed.

Jim Rossi, "Universal Service in Competitive Retail Electric Power Markets: Whither the Duty to Serve," Energy Law Journal 21, no. 1 (2000): 27-50

McGill Guide 9th ed.

Jim Rossi, "Universal Service in Competitive Retail Electric Power Markets: Whither the Duty to Serve" (2000) 21:1 Energy LJ 27.

AGLC 4th ed.

Jim Rossi, 'Universal Service in Competitive Retail Electric Power Markets: Whither the Duty to Serve' (2000) 21 Energy Law Journal 27.

MLA 8th ed.

Rossi, Jim. "Universal Service in Competitive Retail Electric Power Markets: Whither the Duty to Serve." Energy Law Journal, vol. 21, no. 1, 2000, p. 27-50. HeinOnline.

OSCOLA 4th ed.

Jim Rossi, 'Universal Service in Competitive Retail Electric Power Markets: Whither the Duty to Serve' (2000) 21 Energy LJ 27

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UNIVERSAL SERVICE IN COMPETITIVE RETAIL ELECTRIC POWER MARKETS: WHITHER THE DUTY TO SERVE?

Jim Rossi*

I. INTRODUCTION

During most of the twentieth century, the privately-owned electric utility was regulated as a natural monopoly. Under the natural monopoly paradigm, a vertically-integrated electric utility provides generation, transmission, and distribution services under the rubric of a single firm serving a geographic service territory. While it is allowed to operate as a monopolist, this firm also has certain responsibilities. It submits to price regulation, assumes obligations to extend service to all customers within its geographic service territory, and agrees to continue providing service, once service has commenced.¹

With the advent of competitive restructuring, conventional wisdom assumes that markets will largely displace price regulation, but little discussion focuses on the implications of deregulation for service obligations in the electric power industry. Today, electric utilities' extraordinary service obligations – often collectively referred to as the “duty to serve” – face their largest challenge ever. The potential conflict between universal service and retail competition in electricity bears analogy to a tension in other industries, such as natural gas and telecommunications. In the natural gas industry, deregulated by the Federal Energy Regulatory Commission (FERC) in 1992,² local gas distribution companies are already beginning to offer many customers retail choice in many states.³ Yet, in New York, the natural gas industry's recent introduction of retail competition has already been alleged to adversely affect the quality of gas service essential to many New Yorkers for heating, leading to a lawsuit against the state by consumer advocates.⁴ Although competitive reforms to the electricity industry lag

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1. CHARLES M. HAAR & DANIEL WM. FESSLER, *THE WRONG SIDE OF THE TRACKS: A REVOLUTIONARY REDISCOVERY OF THE COMMON LAW TRADITION OF FAIRNESS IN THE STRUGGLE AGAINST INEQUALITY* 15 (1986) (“Over the centuries, the common law doctrine of equal services and the duty to serve surfaced and resurfaced as a potent and dynamic means to address changing – and often the grimmest imaginable – social and economic traditions.”). For an engaging argument that the common law duty to serve extends beyond common carriers and innkeepers to include private retail establishments, see Joseph William Singer, *No Right to Exclude: Public Accommodations and Private Property*, 90 NW. U. L. REV. 1283 (1996). See also David S. Bogen, *The Innkeepers's Tale: The Legal Development of a Public Calling*, 1996 UTAH L. REV. 51 (1996).

2. Pipeline Service Obligations and Revisions to Regulations Governing Self-Implementing Transportation and Regulation of Natural Gas Pipelines After Partial Wellhead Decontrol, 57 Fed. Reg. 13,267 (1992), *order on reh'g*, 57 Fed. Reg. 36,128 (1992), *order on reh'g*, 57 Fed. Reg. 57,911 (1992), *reversed and remanded*, United Distribution Cos. v. FERC, 88 F.3d 1105 (D.C. Cir. 1996), *order on remand*, 78 F.E.R.C. ¶ 61,186 (1997). Order No. 636 is codified at 18 C.F.R. pt. 284 (1997).

3. George R. Hall & Richard J. Pierce, Jr., *Retail Gas Reform: Learning from the Georgia Model*, 8 PUB. UTIL. FORT., Apr. 15, 1997, at 22, 24 (summarizing state developments and predicting that more than 12 million homes, comprising greater than 20% of U.S. residential customers, will have a choice of gas suppliers by the year 2000); see also KEVIN COSTELLO & J. RODNEY LEMON, *UNBUNDLING THE RETAIL NATURAL GAS MARKET: CURRENT ACTIVITIES AND GUIDANCE FOR SERVING RESIDENTIAL AND SMALL CONSUMERS* (1996).

4. Gerald A. Norlander, *Retail Choice: A Race to the Bottom*, 136 No. 1 PUB. UTIL. FORT., Jan. 1, 1998, at 8 (letter to the editor). The case, brought by consumer taxpayers and a consumer advocate nonprofit group alleging illegal expenditure of public funds under the state finance law, was dismissed for lack of stand-

behind the natural gas and telecommunication industries,⁵ as electricity is deregulated, particularly at the retail level, similar problems can be expected to arise.

Can vigorous retail competition of the type public utility deregulation envisions coexist with extraordinary obligations to serve customers? If so, at what cost? Who will bear these costs? These questions are central to an emerging law and economic analysis known as the "jurisprudence of networks,"⁶ which is of paramount importance as regulators and courts implement competition in traditional public utility industries, including electricity, where the natural monopoly model is being abandoned or reformed.

After summarizing how the duty to serve was implemented in the electricity industry under natural monopoly regulation, this article addresses whether traditional service obligations can coexist with retail competition. A rationale often given for universal service obligations in the telecommunications industry is that universal service, by promoting interconnectivity, enhances network system benefits for all customers. While the network economies argument may have worked to sustain universal service in the face of telecommunications deregulation, it is tenuous when applied to the natural gas and electricity industries. Many reformers look askance at the duty to serve in competitive retail utility service markets,⁷ often pointing to conflict between retail competition in electricity and the duty to serve.⁸ This article argues, however, that application of

ing. See Public Util. Law Project of N.Y., Inc. v. New York State Pub. Serv. Comm'n, 681 N.Y.S.2d 396 (A.D.3d 1998).

5. The development of competition in electricity is hardly a United States-specific phenomenon. Many other countries have also deregulated the electricity industry. Electricity competition is also the subject of a recent directive of the European Communities. *Directive 96/92 Concerning Common Rules for the Internal Market in Electricity*, 1996 O.J. (L27) 27 (requiring Member States to take measures to open up markets for electricity). See also A.M. Klom, *Effects of Deregulation Policies on Electricity Competition in the EU*, 15 J. ENERGY & NAT. RESOURCES L. 1 (1997).

6. J. GREGORY SIDAK & DANIEL F. SPULBER, *DEREGULATORY TAKINGS AND THE REGULATORY CONTRACT: THE TRANSFORMATION OF NETWORK INDUSTRIES IN THE UNITED STATES* (1997) (arguing that, because of the regulatory compact between industry and the state, deregulation could violate the takings or contract clause of the U.S. Constitution).

7. For early efforts to address the related tension between wholesale competition and utility service obligations, see Joe D. Pace, *Wheeling and the Obligation to Serve*, 8 ENERGY L.J. 265 (1987) (warning of potential conflict, but offering no specific solution); J.A. Bouknight & David B. Raskin, *Planning for Wholesale Customer Loads in a Competitive Environment: The Obligation to Provide Wholesale Service Under the Federal Power Act*, 8 ENERGY L.J. 237 (1987) (noting potential conflict between the FERC's legal obligations and wholesale competition); Floyd Norton & Mark Spivak, *The Wholesale Service Obligation of Electric Utilities*, 6 ENERGY L.J. 179 (1985) (speculating about implications of competition for the obligation to provide wholesale electric service). This article provides a more complete approach than these earlier efforts, partly because most of the wholesale restructuring that previously was the subject of speculation has materialized, so key facts about a restructured industry are available for analysis. In addition, this article focuses on impacts for end use, retail customers and applies generally to restructured public utility industries, not just electricity.

8. There is little, if any, disagreement that retail wheeling is incompatible with an obligation to serve. A utility cannot be obligated to meet the energy needs of potential customers within its service territory without some guarantee of recovering the costs associated with that obligation. To do otherwise would clearly result in economic inefficiencies. It would also lead to further inequities, since the costs and risks of meeting a standing obligation would be borne either by the utility's remaining customers or its stockholders.

Jonathon A. Lesser & Malcolm D. Ainspan, *Retail Wheeling: Deja Vu All Over Again?*, ELECTRICITY J., Apr.

extraordinary service obligations to distribution companies in a competitive retail framework can coexist with improved efficiency in retail power markets, although the abandonment of the natural monopoly framework challenges regulators to articulate new rationale for service obligations and to devise new ways of paying for them.

II. THE PUBLIC UTILITY'S "DUTY TO SERVE" IN THE ERA OF NATURAL MONOPOLY REGULATION

Twentieth century U.S. regulators built on an ancient common law duty that applied to public utilities such as ferries, flour mills, and railroads, imposing on electric utilities a "duty to serve," an obligation to provide extraordinary levels of service to customers, especially small residential customers. As applied today in most states, the public utility duty to serve entails several obligations, including: the duty to interconnect and extend service if requested; the duty to provide continuing reliable service; the duty to provide advanced notice of service disconnection; and the duty to continue service even though a customer cannot make full payment. Unlike other obligations that apply to private firms, including those such as inns and restaurants representing or holding themselves out as serving the public,⁹ in the public utility context the duty to serve requires service where it is not ordinarily considered profitable. The link between the public utility concept and the duty to serve has survived many different regulatory eras and institutional arrangements, garnering a variety of intellectual explanations.¹⁰ There are strong fairness or distributional arguments supporting a duty to serve; many of these overlap with the goals of the civil rights movement, without which many customers would not have had equal access to quality utility service. However, in the modern era of public utility regulation—beginning with the Gilded Age and lasting through the present—the economics of natural monopoly regulation provide the predominant intellectual framework supporting extraordinary obligations for providers of utility services.

1994, at 34, 40-41.

9. Of course, civil rights laws may preclude service exclusion for some groups of individuals, see Singer, *supra* note 1, but their scope is limited. Also, to the extent a public utility is a state actor (e.g., a municipal utility), the Due Process and Equal Protection Clauses of the U.S. Constitution may impose some limitation on service exclusion. Apart from these exceptions, under antitrust laws, ordinary private businesses may unilaterally refuse to deal with particular customers and set the terms and conditions under which they contract. *United States v. Colgate & Co.*, 250 U.S. 300, 307 (1919) (noting that a firm may unilaterally refuse to deal with a customer so long as that refusal does not intend to create or maintain a monopoly). The duty to serve, however, imposes significantly more rigorous dealing and service terms and conditions on utilities than other private actors.

10. See, e.g., Gustavus H. Robinson, *The Public Utility Concept in American Law*, 41 HARV. L. REV. 277 (1928) (tracing the evolution of the concept and defining it with respect to the provision of necessities); Norman F. Ardeburn, *The Origin and First Test of Public Callings*, 75 U. PA. L. REV. 411 (1927) (discussing the origins of the public utility); Charles K. Burdick, *The Origin of the Peculiar Duties of Public Service Companies*, 11 COLUM. L. REV. 514 (1911) (tracing doctrine and history); Bruce Wyman, *The Law of the Public Callings as a Solution of the Trust Problem*, 17 HARV. L. REV. 156, 161 (1903) (suggesting that "virtual monopoly" is the distinguishing feature of public utilities).

A. *The Law and Economics of Horizontal and Vertical Integration*

Natural monopoly regulation is often understood through the lens of the "regulatory compact," a fictional contract between the utility and the state. Under this compact, the utility consents to certain obligations, such as the duty to serve, in return for its geographic franchise and expected recovery of its costs of service through regulated rates. The relationship between a utility and the government, after all, is perhaps best understood within a long-term contract framework, given the large amounts of capital required for network infrastructure and the complexity of the underlying environment, leading to poor specification of contractual terms.¹¹ Some go so far as to suggest that this contract, though fictional, must be honored by the state as any other legal contract,¹² but the regulatory compact rationale is perhaps best understood as one account of the historical development of utility regulation.¹³

In his famous article *The Nature of the Firm*, Ronald Coase observed that all transactions in an economy are not necessarily most efficiently realized through explicit exchange in the market.¹⁴ Oliver Williamson has generalized Coase's observation to present a framework for analyzing the costs of market contracting and the optimal degree of vertical and horizontal integration. Williamson observed that the costs of market contracting vary with uncertainty, the frequency of transactions, asset specificity (the extent to which durable assets are tailored to specific transactions), and problems caused by opportunism. Transactions exhibiting these characteristics require complex contracts and tend to favor integration within organizations. As the need for contractual complexity rises, so does the cost of bilateral contracting, making internal control more attractive.¹⁵

The Williamsonian framework provides a powerful explanation for the high degrees of horizontal and vertical integration in the twentieth-century electric utility industry, central to the traditional framework of natural monopoly regulation. For example, the modern, investor-owned electric utility was conceived in the nineteenth century in Chicago, by Samuel Insull, an associate of Thomas

11. Oliver E. Williamson, *Transaction Cost Economics: The Governance of Contractual Relations*, 22 J.L. & ECON. 233 (1979); Victor Goldberg, *Regulation and Administered Contracts*, 7 BELL. J. ECON. 444 (1976)].

12. See, e.g., SIDA & SPULBER, *supra* note 6. For criticism of this position, see Jim Rossi, *Book Review - The Irony of Deregulatory Takings*, 77 TEX. L. REV. 297 (1998).

13. For example, George Priest describes utility regulation as evolving not from regulatory capture, but from a pragmatic negotiation between utilities and local governments that gave utilities the power of eminent domain. See generally George L. Priest, *The Origins of Utility Regulation and the "Theories of Regulation" Debate*, 36 J. L. & ECON. 289, 303 (1992).

14. There is, in principle, no need for the market to organize around firms. Instead, market actors could organize through arms-length transactions with the guidance of price mechanisms. A firm simply bypasses (or internalizes) the system of market prices and coordinates production without the use of explicit prices. See Ronald Coase, *The Nature of the Firm*, 4 ECONOMICA 386 (1937). Essentially, Coase was taking exception to the then-dominant understanding that the "natural" evolution of the firm was defined by technology and its costs and could be taken as given.

15. Williamson, *supra* note 11; see also OLIVER E. WILLIAMSON, *THE MECHANISMS OF GOVERNANCE* 65-78, 103-05 (1996).

Edison.¹⁶ By this time, John Stuart Mill had recognized how natural monopolies avoid waste,¹⁷ and economists such as Richard T. Ely and Henry Carter Adams had written that monopolies result from economies of scale achieved by technological innovation.¹⁸ The avoidance of economic waste and the achievement of economies of scale through new technology were central to the origin of Insull's monopoly. Initially, large Chicago electricity users, such as apartment buildings, hotels, fancy shops, and department stores, generated power locally. Eventually, Chicago Edison (Commonwealth Edison's predecessor), competing for increased service territory, realized that ownership of multiple generators within the same horizontally-integrated firm structure allowed significant coordination of economies. With technological innovations, the central station became a feasible technology for integrating adjacent electricity transmission systems.¹⁹ Hence, Insull was able to consolidate horizontally a geographic service territory for a single utility, Chicago Edison; the utility was required to provide service and, in return, the utility was given an exclusive franchise, precluding others from providing service within its franchise area.

In addition, vertical integration of generation, transmission, and distribution functions within the same firm allowed significant operational economies.²⁰ In the electricity industry, significant operational efficiencies have been realized by the consolidation of generation and transmission within a single monopoly-franchised firm. The economic arguments for vertical integration are bolstered by electricity's technical characteristics, including the physics of transmission; the high costs of storage; and the high degree of coordination necessary to sus-

16. The historian Harold Platt provides an intriguing historical account. HAROLD L. PLATT, *THE ELECTRIC CITY: ENERGY AND THE GROWTH OF THE CHICAGO AREA, 1880-1930* 59-92 (1991). See also JAMES A. THROGMORTON, *PLANNING AS PERSUASIVE STORYTELLING: THE RHETORICAL CONSTRUCTION OF CHICAGO'S ELECTRIC FUTURE* (1996).

17. Mill argued that it would be uneconomical and duplicatively wasteful for cities to be connected to parallel railroad tracks, or for a city to be served by more than a single postal service. JOHN STUART MILL, *PRINCIPLES OF POLITICAL ECONOMY* (1848) (arguing that the London gas light industry would perform more efficiently if it were a regulated monopoly rather than a competitive industry); see also E. Benjamin Andrew, *The Economic Law of Monopoly*, 26 J. SOC. SCI. 1 (1890); Arthur T. Hadley, *Private Monopolies and Private Rights*, 1 Q. J. ECON. 28 (1887). An excellent modern history is Herbert Hovenkamp, *Technology, Politics, and Regulated Monopoly: An American Historical Perspective*, 62 TEX. L. REV. 1263 (1984). Of course, long before Mill, it was well recognized outside of political economists, by Lord Hale and others, that certain industries should be operated exclusively under Crown franchise grants, price regulated, and forced to serve all customers willing to pay.

18. Hovenkamp, *supra* note 17, at 1270. See also Richard T. Ely, *The Nature and Significance of the Corporation*, 75 HARPER'S MAG. 71 (1887); Henry Carter Adams, *Relation of the State to Industrial Action*, PUB. AM. ECON. A., Jan. 1887, at 55.

19. PLATT, *supra* note 16, at 22-25, 69-70, 74-82. As Platt suggests, such horizontal integration was dependent on the development of AC current, allowing the extension of electricity transmission beyond a mile and a half, and the technology of central station coordination. *Id.* In addition, a large degree of horizontal integration has been externally established through informal coordination and contractual pooling. *Id.* at 72-74. For example, it is commonplace for vertically-integrated utilities to functionally and operationally integrate with other separately owned utilities through long-term cooperative activities and long-term contractual arrangements governing transmission. PAUL L. JOSKOW & RICHARD SCHMALENSEE, *MARKETS FOR POWER: AN ANALYSIS OF ELECTRICAL UTILITY DEREGULATION* 26 (1983).

20. See also PLATT, *supra* note 16, at 74 (noting that Insull's approach "represented a practical application of a novel economic and constitutional theory of 'natural' monopoly").

tain reliable service. The vertical integration of generation and transmission is the market's recognition of two technical phenomena that make de-integration costly: (1) "electrical equilibrium," the transmission stasis necessary to avoid blackout, requires that the sum of power demanded must equal the sum of power supplied at generation buses minus the amount of power lost in transmission; and (2) individual generators cannot physically direct their output to any particular customer or demand point. A vertically integrated generation and transmission utility is able to economize on these technical complexities by engaging in "economic dispatch" (utilizing the least expensive generator to meet its customer demands), monitoring generation to maintain internal electrical equilibrium, and diversifying its contracts to allow an operationally flexible combination of generation capacity to meet its customer load. For these reasons, the generation and transmission utility is virtually universal in the industry, although some utilities also extend their vertical integration to the distribution of power.²¹ This high degree of vertical integration in the industry minimizes the costs of contracting by internalizing costs, many of which are informational,²² within a single firm.

These economic rationales favor high degrees of vertical and horizontal integration in the electricity industry. The integration of constituent services and a geographic franchise under the rubric of a single firm, however, also calls for some degree of franchise and price regulation to control monopoly abuses. Under the traditional approach, regulators define a franchise service area for a public utility guaranteeing it access to customers within this area.²³ Once a franchise is defined, the traditional approach to regulating the electric utility is to regulate rates in a manner designed to approximate the results of a competitive market—*i.e.*, to set price as close as possible to long-run marginal economic cost, including a normal rate of return on capital.²⁴

B. Efficiency of the Duty to Serve Within the Natural Monopoly Framework

Natural monopoly regulation peacefully coexists with the obligations imposed by the duty to serve because, within the natural monopoly framework, the firm's incentives to extend and continue service are compatible with regulators' goals of ensuring the lowest prices for customers. In this sense, price regulation simply provides the firm with incentives to act in accordance with what the regulators believe is in the public interest, since private and public interests in

21. Investor-owned utilities commonly integrate distribution with generation and transmission. It is typical for cooperative and municipal utilities to separate distribution from generation and transmission. Although distribution facilities may be separately owned, they are typically linked with the generation and transmission firm by long-term requirements contracts. JOSKOW & SCHMALENSEE, *supra* note 19, at 113 (observing that "[v]ertical integration between generation and transmission is virtually universal").

22. See generally MARK CASSON, INFORMATION AND ORGANIZATION: A NEW PERSPECTIVE ON THE THEORY OF THE FIRM (1997) (offering the theory of the firm as a system of structured information flows).

23. See generally CHARLES F. PHILLIPS, JR., THE REGULATION OF PUBLIC UTILITIES: THEORY AND PRACTICE 563-64 (1993).

24. Marginal cost includes both the cost of delivering power and the cost of reserve capacity to ensure reliable supply. The cost of reserve capacity, often a fixed monthly charge for customers, does not vary based on customer usage. Reserves may be paid for through an ancillary service charge or a capacity charge on customer bills.

service provision converge. Although politically stable, this convergence also has some basis in economic efficiency.

Under the natural monopoly regulatory framework, the duty to extend service, even where it is not immediately profitable, can be economically efficient. Prohibitions on direct competition with a utility increase system stability and reliability, minimizing some of the costs of vertical coordination, and decrease horizontal coordination costs by ensuring that only a few adjacent utilities are parties to any power pool. In return, customers must be guaranteed access to power supply and distribution services if requested, since these services are bundled together and provided by a single firm.

The duty to extend service might thus be seen as economically efficient because of the industry's structure and the regulators' approach to preserving this structure through natural monopoly regulation. As Richard Epstein has suggested, "the obligation of universal service to all comers is the obvious and effective way to overcome the holdout advantage that common carriers would otherwise possess against their customers."²⁵ Put another way, utilities subject to a duty to extend service are not given an ordinary property right to exclude. Instead, the utility is protected by a liability rule, which allows customers to take service on demand in return for compensation, as determined through an elaborate ratemaking system. Effectively, service extension obligations are imposed on the utility, rather than assumed by the consumer, because the utility is better positioned to spread the costs of extension among multiple customers. This in turn minimizes the wealth impact on poorer customers, whose marginal utility of money is relatively high.²⁶

Cost spreading is a primary rationale behind the extension obligation applicable to utilities, but service continuation obligations are understood by analogizing to long-term bilateral contracts between a supplier and a buyer and the identification of the superior risk bearer.²⁷ In industries with large up-front capital investments, long-term contracts are necessary to entice suppliers to make investments. Without long-term contracts, guaranteeing a reliable pool of buyers of goods, many suppliers would not make the necessary capital investments to produce or distribute such goods. For example, in the natural gas industry, long-term contracts between pipelines and local distribution companies were essential to financing the national pipeline infrastructure.²⁸

As is ordinary in practice, long-term contracts in private industries are often negotiated so as to allow flexibility in either price or quantity. The extended duration of such contracts pose problems for planning risk management as "gaps"

25. Richard A. Epstein, *A Clear View from The Cathedral: The Dominance of Property Rules*, 106 YALE L.J. 2091, 2118 (1997).

26. On the economic basis of loss (or cost) spreading, see GUIDO CALABRESI, *THE COSTS OF ACCIDENTS: A LEGAL AND ECONOMIC ANALYSIS* (1970). Loss spreading will be desirable when not all persons sharing in the costs of a social policy possess identical marginal utilities of money and where there is concern with minimizing the impact on certain sub-populations, such as low-income persons.

27. The analogy is made in Goldberg, *supra* note 11; Oliver E. Williamson, *Franchise Bidding for Natural Monopolies—In General and with Respect to CATV*, 7 BELL J. ECON. 73 (1976).

28. Richard J. Pierce, Jr., *Reconstituting the Natural Gas Industry from Wellhead to Burnertip*, 9 ENERGY L.J. 1, 11-16 (1988).

in such contracts will always exist. For sales of goods, once service under such a contract commences, a supplier has an obligation to continue to meet reasonable demands for services and not renege on this obligation if a more profitable alternative comes along.²⁹ For example, assume that a seller has agreed to supply all of a buyer's coal requirements for a twenty-year period. The parties base their price-per-ton figure on a Department of Labor price index. However, over time, incidents such as oil embargoes and inflation cause the supplier's production costs to exceed the agreed index, so that if the seller continues to perform it will suffer substantial losses. Nevertheless, the approach of some courts in reviewing such contracts has been to hold the seller completely responsible and to grant specific performance.³⁰ Thus, in the long-term contract context, some courts have in effect enforced a service continuation obligation even in the face of substantial economic losses to the seller.³¹

This approach to enforcing contracts has some efficiency basis in the long-term contract context where the seller is the superior risk bearer.³² In the electric utility context, the long-term agreement is endorsed by a regulatory authority between a utility and its customers, which is known as the regulatory compact. One of the parties to this hypothetical agreement, the utility, is a rate-regulated monopolist. Compared with the end use customer, the utility is the superior risk bearer with respect to changes in the supply of electricity and the technological aspects of transmission and distribution. The customer, though, may be the better risk bearer with respect to its unforeseeable uses of the utility's service. At the same time, as between the utility and customers, the utility is in a better position to spread any losses associated with service cut-off among multiple customers, especially where those losses might have an impact on low-income ratepayers or small businesses. A general utility obligation to continue service and to pay for foreseeable damages places the risk of shut-off on the superior risk bearer and cost spreader.³³ The utility, then, can attempt to seek compensation for these risks and costs through regulated rates, while also providing customers adequate opportunities to contest service curtailment or to seek an alternative supplier.

Although under traditional franchise and price regulation a general duty to serve has some economic efficiency grounds, one of the economic problems created by a service extension and continuation obligation is cross-subsidization.

29. See, e.g., U.C.C. § 2-306.

30. *Missouri Pub. Serv. Co. v. Peabody Coal Co.*, 583 S.W.2d 721 (Mo. Ct. App. 1979); *Iowa Electric Light & Power Co. v. Atlas Corp.*, 467 F. Supp. 129 (N.D. Iowa 1978).

31. Paul L. Joskow, *Commercial Impossibility, The Uranium Market, and the Westinghouse Case*, 6 J. LEG. STUD. 119 (1977) (discussing commercial impracticability defense under § 2-615 of the U.C.C.). *Accord* U.C.C. § 2-306, comment 2 (noting that elasticity or requirements to "curtail losses" may constitute breach).

32. Richard E. Speidel, *Court-Imposed Price Adjustments Under Long-Term Supply Contracts*, 76 NW. U. L. REV. 369, 381-94 (1981); see also Richard Posner & Andrew M. Rosenfield, *Impossibility and Related Doctrines in Contract Law: An Economic Analysis*, 6 J. LEG. STUD. 83 (1977) (describing a superior risk bearer as the party in the best position to prevent a risk from materializing).

33. With respect to service continuation, the utility is not only the superior risk bearer, but also the superior cost spreader. In most cases it will be desirable to impose continuation obligations on the utility, except in those instances where the customer is, on average, the superior risk bearer and the gains from requiring customers to bear the risks of shut off exceed any loss spreading gains from imposing the obligation on the utility.

Price regulation of electric utilities, like regulation of other types of public utilities, focuses on setting prices equal to the costs of providing service to the customer. This approach to price regulation is necessary in natural monopoly markets—particularly those in which scale economies are present—because firms otherwise face incentives to set costs higher and to produce lower quantities than they would in competitive markets. The theoretical solution to this problem presented by neoclassical economics is to set the price equal to the marginal cost, thus mimicking the result of a competitive market. Yet, with economies of scale, the revenues from marginal cost pricing will fall short of the total costs of a firm's outputs.³⁴ In such contexts, regulators have relied on a body of analysis known as "Ramsey pricing," which recognizes that in the presence of scale economies firms would lose money if they were required to set prices at marginal costs and attempts to identify a set of prices that yield adequate revenue for a firm to cover all of its costs.³⁵

With respect to the service extension obligation, customers who may not benefit from service extension may be allocated a portion of the fixed costs of extension, which are built into the fixed cost component of their rates. However, contribution requirements, imposed by many regulators, limit the degree to which utilities can subsidize service extension by increasing rates for all customers. The traditional ratemaking process, in which the impacts and cost-effectiveness of intra- and inter-class cross-subsidization are litigated, also works to minimize the degree of cross-subsidization resulting from the service extension obligation.

In addition, the service continuation obligation facilitates intra-class cross-subsidization by building into all customers' rates the costs of customers who cannot afford to pay the full costs of their bills. Although this likely leads to mismatches between any one customer's costs and rates, it allows utilities to spread these risks among all customers. When a utility removes a customer who cannot afford full payment from its system by disconnecting service, two things occur: (1) the utility avoids the variable costs of producing energy, typically the price of the fuel required to deliver the units of energy to the customer; and (2) since service continuation gives the utility leverage in collection, the utility forgoes any revenue that it might have been able to collect from the household if service were continued. So, assuming excess capacity, there may be a general economic advantage to all ratepayers in keeping as many customers as possible

34. KENNETH E. TRAIN, OPTIMAL REGULATION: THE ECONOMIC THEORY OF NATURAL MONOPOLY 14-15 (1991); DENNIS W. CARLTON & JEFFREY M. PERLOFF, MODERN INDUSTRIAL ORGANIZATION 869-71 (1994).

35. The theory was first presented for analyzing tax policy by a young Cambridge philosopher, Frank Ramsey, who produced contributions to probability theory, combinatorial analysis, geometry, and economics before his death at 26. The original idea is presented in Frank Ramsey, *A Contribution to the Theory of Taxation*, 37 *ECON. J.* 47 (1927). For subsequent reviews of the idea in the literature, see William J. Baumol, *Ramsey Pricing*, in 3 *THE NEW PALGRAVE DICTIONARY OF ECONOMICS* 49-51 (John Eatwell, Murray Milgate & Peter Newman eds. 1987); William J. Baumol & David F. Bradford, *Optimal Departures from Marginal Cost Pricing*, 60 *AM. ECON. REV.* 265 (1970). For regulators, Ramsey pricing has been utilized as "a prescription for deriving those prices whose deviations from marginal cost will serve the public interest where scale economies are present." WILLIAM J. BAUMOL & J. GREGORY SIDAK, TRANSMISSION PRICING AND STRANDED COSTS IN THE ELECTRIC POWER INDUSTRY 33 (1995).

on the system. Service continuation obligations allow the utility to spread fixed costs (for existing capacity) over a larger number of customers and to reduce the portion of each customer's bill allocated to fixed costs.³⁶ Thus, even in the event of under-payment, it may be cost-effective for a utility with excess capacity to continue service to a customer and to accommodate the customer who cannot afford service at cost by working out a partial payment plan, so long as it is reasonably expected that the customer can pay at least the variable cost of service.

Cross-subsidization is a necessary result of the duty to serve, but the impacts of cross-subsidization have been minimized by contribution requirements, the ratemaking process, and cost-effectiveness considerations. Although there are inevitable cross-subsidization costs associated with the duty to serve, regulators have had to strike a balance to ensure that the benefits of universal access to utility service offset these costs. Thus, the duty to serve has led a relatively peaceful coexistence with franchise and price regulation under the natural monopoly paradigm.

III. RETAIL WHEELING AND UNIVERSAL SERVICE IN ELECTRICITY: REFIN(-) ANCING THE DUTY TO SERVE FOR A POST-PUBLIC UTILITY ERA IN ELECTRICITY

The dawn of competition in electricity raises a tension for the common law duty to serve, historically protected by natural monopoly regulation. In competitive retail power and natural gas markets, the traditional economic efficiency arguments in favor of imposing extraordinary service obligations must be reassessed in light of structural modifications to the industry.

It is tempting for regulators addressing the obligations of firms in electricity markets to look to other markets in which they have experience, such as telecommunications, where universal service is often regarded as coexisting with retail competition. However, one of the primary network efficiency rationales for universal service in telecommunications is inapplicable to physical energy network markets, such as electricity and natural gas. To the extent that extraordinary service obligations are continued for electricity and natural gas in the same manner that they have been for the past hundred years, regulators will need to articulate alternative economic efficiency justifications or will need to explicitly embrace goals outside of economic efficiency, such as fairness or distributive justice.

A. *The Tension Posed by the Duty to Serve in Retail Markets*

Wholesale transmission access and competition among wholesale suppliers has not posed any immediate threat to the public utility's duty to serve,³⁷ but the

36. Roger Colton, *A Cost-Based Response to Low-Income Energy Problems*, 27 PUB. UTIL. FORT., Mar. 1, 1991, at 31.

37. Since FERC Order No. 888, wholesale access and supply competition occur under the FERC's open access policies, which require a transmission utility to offer transmission service to customers and suppliers at terms and conditions comparable to the service it offers its own power supply. *Promoting Wholesale Competition Through Open Access Non-Discriminatory Transmission Services by Public Utilities and Transmitting Utilities*, 61 Fed. Reg. 21,540 (May 10, 1996) (codified at 18 C.F.R. pts. 35, 385 (1997)). Under prior regula-

introduction of retail competition requires some reassessment of the intellectual foundations for, and practical application of, the traditional duty to serve. The California Public Utility Commission's (CPUC) first order leading to the adoption of retail choice legislation acknowledged the need for consideration of this issue as customers begin to shop for power:

To allow eligible customers to choose without restriction between the regulated price for a bundled utility service and the price offered by the generation services market may severely reduce the utility's ability to plan for, and reliably serve, its remaining customers. Absent modifications to the compact's traditional duty to service, consumers may make choices about electric services which they find economically attractive, but which are undesirable with respect to the broader goal of allocating society's resources efficiently.³⁸

The possibility of such uneconomic bypass (bypass that might work to lower costs for a single shopping customer while raising average costs for other customers)³⁹ may necessitate some consideration of the costs of the traditional duty to serve. Moreover, a system that allows power suppliers and customers to choose to deal with each other, especially if left unregulated, may allow suppliers or distributors to elect never to serve certain classes of customers, such as low-income residents, or to cease service however they wish consistent with retail power sales agreements.

Of course, perceived conflicts between vigorous retail competition and customer access can be avoided to the extent that one of these seemingly incompatible goals is simply abandoned. Since it is not likely that the movement towards retail competition in traditional public utility industries will cease, one option in the face of the tension between retail competition and common law service obligations is to abandon the duty to serve for competitive markets, treating traditional utility services as any other service in a competitive market. After all, as retail markets open up, it will be increasingly possible for suppliers and distributors to provide a variety of service qualities to end users. Without a duty to serve, utility markets might operate much like other deregulated markets, such as trucking and banking, which rely on contractual obligations and general consumer protection laws to ensure service delivery. For example, if an electricity supplier refuses service to a customer, the customer must find alternative suppliers, and competition in power generation will likely provide customers a range of power supply qualities.⁴⁰ Should a power distributor (known as a

tory structures, competition at the wholesale level may have had potentially adverse impacts on service obligations. Bouknight & Raskin, *supra* note 7, at 239 (noting that "to the extent that existing obligations are inconsistent with a system of free and fair competition the Congress and the FERC must address the issue").

38. *Re Proposed Policies Governing Restructuring of California's Electric Services Industry and Reforming Regulation*, 151 P.U.R.4th 73, 92 (Cal. Pub. Util. Comm'n 1994).

39. Uneconomic bypass has been defined as bypass that reduces costs to one customer but increases overall average network costs, thus creating costs for other customers. 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, 244 (1989).

40. Some suggest that traditional rate regulation has had an adverse effect on the average quality of service. See generally ANDREW S. CARRON & PAUL W. MACAVOY, *THE DECLINE OF SERVICE IN REGULATED INDUSTRIES* (1981) (chronicling a decline in service quality throughout the 1970s). Notably, in England, which deregulated its electricity industry through privatization in 1991, service disconnections fell by 95% over the first few years of deregulation. See also KENNETH W. COSTELLO & ROBERT J. GRANIERE, *DEREGULATION-*

DisCo) refuse to extend or discontinue service to a customer because it is not profitable, the customer may also attempt to find alternatives. For example, for large, heavy load customers of electricity, alternatives such as self-generation or wheeling around the DisCo may be cost feasible. Markets flourish with bilateral relationships, while the duty to serve imposes a unilateral obligation on the incumbent utility. Customers already have a variety of safeguards, including credit financing and consumer protection statutes, such as the Uniform Commercial Code.⁴¹

Though a challenge, it is not an impossible task for regulators to establish extraordinary service obligations in competitive retail industries. Many insurance industries provide for universal service through various sorts of assigned risk pools. For example, the property insurance industry has developed Fair Access to Insurance Requirements (FAIR) plans.⁴² In the hospital industry, the obligation of hospitals to serve the indigent is explicitly made a condition in the awarding of federal construction grants.⁴³ Nonprofit health care providers take on an obligation to provide indigent health care, partly as a condition to the grant of certain governmental benefits, such as federal, state, or local tax benefits.⁴⁴ It may be questionable how successful these approaches to promoting universal service have been, but their existence suggests that the duty to serve can coexist with retail competition.

B. The Efficiency of Universal Service in Telecommunications Networks

In the telecommunications industry, the extraordinary obligations applicable to service providers have come to be known as "universal service," recently

RESTRUCTURING: EVIDENCE FROM INDIVIDUAL INDUSTRIES 14 (1997).

41. For example, express and implied warranty protections appear in both state and federal law. See, e.g., U.C.C. § 2-313 (express warranty); § 2-314 (implied warranty of merchantability); § 2-315 (implied warranty of fitness for particular purpose); § 2-318 (extension of warranties to third party beneficiaries expected to use goods); see also 15 U.S.C. §§ 2301-2312 (1999) (Magnuson-Moss Warranty Act, regulating explicit and implied warranties). In addition federal law prohibits "unfair methods of competition and unfair or deceptive acts or practices in or affecting commerce." 15 U.S.C. § 45(a) (1999). All states have similar statutes protecting against unfair trade acts. The Federal Equal Credit Opportunity Act, 15 U.S.C. § 1691-1691e, and the Fair Credit Reporting Act, 15 U.S.C. § 1681 (1999), establish minimum standards that prevent discrimination in the granting of credit and consumer safeguards. See also 15 U.S.C. ch. 41 (Consumer Credit Protection Act); 15 U.S.C. §§ 1692-1692o (1999) (Fair Credit Debt Collection Act); 15 U.S.C. § 1637 (1999) (Fair Credit Billing Act). State regulation of finance charges, credit terms and the federal Truth in Lending Act (TILA), 15 U.S.C. § 1602(f) (1999), have historically not applied to public utilities because these laws contain a stricter definition of credit designed to capture transactions in which both parties intend that payment will be delayed and finance charges imposed as a part of a lengthened payment schedule. In competitive markets, though, retail electricity suppliers and distributors may devise payment plans that resemble credit sale transactions or sponsor open-ended credit plans for the sale of electricity which could trigger TILA disclosure and disputed bill procedures.

42. The FAIR plan was created under the Urban Property Protection and Reinsurance Act of 1968, Pub. L. No. 90-448, 82 Stat. 555 (codified as amended in scattered sections of 5, 12, 15, and 42 U.S.C.). For discussion, see generally Regina Austin, *The Insurance Classification Controversy*, 131 U. PA. L. REV. 517 (1983).

43. The Hill-Burton Act conditions the funding of hospital construction on the provision of uncompensated care to indigent citizens. 42 U.S.C. § 291 (1999). In addition, a federal law called the Emergency Medical Treatment and Active Labor Act, adopted in 1986, requires Medicare-participating hospitals to examine and treat all emergency room patients and women in labor. 42 U.S.C. § 1395dd (1999).

44. James Simpson & Sarah Strum, *How Good a Samaritan? Federal Income Tax Exemption for Charitable Hospitals Reconsidered*, 14 U. PUGET SOUND L. REV. 633 (1991).

endorsed by the U.S. Congress in the Telecommunications Act of 1996.⁴⁵ The rationale for universal service in telecommunications is independent of natural monopoly regulation.

In the telecommunications context, the predominant economic rationale for a universal service obligation is that pervasive access increases network system benefits for all customers.⁴⁶ Basically, the idea is that a service obligation on providers of telecommunications service enhances the value of network service for all customers to such a degree that customers are willing to pay a premium to subsidize universal access. The Federal Communications Commission (FCC), in its 1997 universal service order, recognized this economic rationale:

Universal service support mechanisms that are designed to increase subscribership by keeping rates affordable will benefit everyone in the country, including those who can afford basic service. At the simplest level, increasing the number of people connected to the telecommunications network makes the network more valuable to all its users by increasing its usefulness to them. Increasing subscribership also benefits society in ways unrelated to the value of the network per se. For example, all of us benefit from the widespread availability of basic public safety services, such as 911.⁴⁷

Because the value of telecommunications service increases to customers with greater degrees of system interconnectivity, universal service is regarded as economically valuable by telecommunications firms and customers, even those who can afford market-priced services. Put another way, universal service creates a positive externality, which inures to the benefit of all customers through pervasive interconnectivity. For example, the more pervasive access to the Internet, the more valuable the Internet is as a communications tool, everything else being equal.⁴⁸

While intuitively attractive, this rationale is not without its problems. First, there is clearly some limit on the amount the average consumer is willing to pay to subsidize universal service. At some point, the marginal benefits of enhanced access will not justify the additional cost. For example, expansion of a network initially financed by middle-class customers to include the poor, particular those with whom middle-class customers rarely interact, will likely provide few benefits of the sort that the average middle-class customer will be willing to pay for.

45. Telecommunications Act of 1996, § 254, Pub. L. No. 104-104, 110 Stat. 56 (1986) (directing the Federal Communications Commission to define "universal service," consistent with principles in statute). This provision was the subject of deliberations of a joint federal/state board and FCC rules issued in 1997. *In re Federal-State Joint Board on Universal Service*, FCC Docket No. 96-45 (May 7, 1997). These rules have been clarified in several orders on reconsideration, most recently in December 1997. *In re Federal-State Joint Board on Universal Service*, FCC Docket No. 96-45 (Dec. 30, 1997). For criticism of this new statutory provision, see MILTON J. MUELLER, JR., *UNIVERSAL SERVICE: COMPETITION, INTERCONNECTION, AND MONOPOLY IN THE MAKING OF THE AMERICAN TELEPHONE SYSTEM* (1997). Additional papers and comments regarding universal service are available through the Benton Foundation (visited Feb. 1, 1998) <<http://www.benton.org/>>.

46. For an integrated discussion of network economic effects in several areas of the law, see Mark A. Lemley & David McGowan, *Legal Implications of Network Economic Effects*, 86 CALIF. L. REV. 479 (1998).

47. *In re Federal-State Joint Bd. on Universal Serv.*, FCC Docket No. 96-45, slip op. at 8, ¶ 8 (May 7, 1997).

48. So too with the fax machine, an appliance that only became valuable once it was distributed among multiple persons connected by a network. Kevin Kelly, *New Rules for the New Economy*, WIRED, Sept. 1997, at 140, 142-43.

The average-middle class customer who can afford to pay for its own access will likely not be willing to pay a significant premium to enhance access for others unless there is some cognizable benefit to the network system or to the value of service. Empirically, it is unclear how much the average consumer is willing to pay to subsidize universal service. Clearly there are some limitations on the willingness of consumers to pay for system benefits, but, without empirical study, this theory fails to provide a clear criterion for limiting its extension. For example, taken to its extreme it could require not only subsidization of the network, but a redistributive tax to pay to provide computers or other electronic devices to customers who cannot afford to pay for these. While such a tax may seem desirable as a matter of fairness or distributive justice, it is hardly required by economic efficiency.

A second limitation with this rationale for universal service in the telecommunications context is that it does not factor in network congestion costs. If the infrastructure is already in place to accommodate additional customers at a low incremental cost, the positive externality rationale provides a powerful incentive for enhancing access. However, with limited infrastructure, additional participants may actually cause the value of service for incumbent customers to decline if congestion ensues or if the quality of service is otherwise adversely affected. In the Internet context, for example, the congestion bottlenecks resulting from mass access to system networks are obvious.

These problems aside, while this positive externality rationale for universal service might explain why consumers, in a nonregulated context, may be willing to pay for cross-subsidization of universal service in telecommunications, it is, at best, a tenuous argument for supporting a duty to serve in the natural gas and electricity industries. Under traditional public utility regulation, the consumption of gas and electricity commodities, unlike communications services, do not depend on interconnectivity for their value. Additional customers might make certain secondary markets possible—Circuit City would not exist if customers did not have circuits⁴⁹—and this may stimulate demand for electricity or natural gas. Moreover, as is discussed above, increasing the number of customers on a network may work to decrease the fixed costs associated with providing electric or natural gas service, reducing the price each customer pays in a rate-regulated environment. However, any individual customer can obtain great value from utilizing electrical or natural gas appliances in complete isolation. An electrical generator, for example, can easily power a home or office, so long as adequate fuel is available. Thus, although some economic benefits to pervasive access can be identified for these industries, they relate primarily to the costs and supply of network service, not to its demand value or the amount customers are willing to pay for universal service. To this extent, the positive externality argument for universal service is weak when applied to commodities like electricity and natural gas outside the natural monopoly framework—or, at least in this context, universal service demands some alternative economic explanation.

49. The author wishes to thank his colleague Larry Garvin for putting it to him this way.

C. *Efficiency and Universal Service in a Competitive Retail Market Framework*

To date, those states that have addressed retail competition in power markets have expressed an awareness of the potential tension between the common law duty to serve and competitive retail markets without abandoning either goal. California stated in the preamble to its 1996 retail wheeling legislation, “[i]t is the further intent of the Legislature to continue to fund low-income ratepayer assistance programs, . . . in an unbundled manner . . .” and maintained 1996-level low-income and universal service expenditures.⁵⁰ New Hampshire, which considered similar legislation, was more explicit:

A restructured electric utility industry should provide adequate safeguards to assure universal service. Minimum residential service safeguards and protections should be maintained. Programs and mechanisms that enable residential customers with low incomes to manage and afford essential electricity requirements should be included as part of industry restructuring.⁵¹

The task of formulating extraordinary service obligations in an era of retail competition is not an impossible one. It should not preclude consideration of retail competition by states, nor should it necessarily lead to the abandonment of extraordinary service obligations. In fact, the introduction of retail competition may even lead to the enhancement of consumer protection obligations, perhaps from fear of the abuses markets may yield.⁵²

Although the rationales applicable to the telecommunications industry are inapposite in competitive electricity markets, there are some economic efficiency rationales supporting continuation of the duty to service in competitive retail power markets. To understand how extraordinary service obligations will apply in the context of a competitive retail power market, some understanding of this market’s operational framework is necessary. While the DisCo is often thought to remain a natural monopolist, generation, power supply, marketing, brokering, and energy services are today regarded as competitive industries.⁵³ Since deregulation of the electricity industry acknowledges different market characteristics for different market actors, the traditional approach to implementing service obligations requires some reassessment. Equal application of a duty to every institutional actor providing electric utility services in competitive retail markets will pose significant economic costs and may thwart the development of retail power markets. In particular, from an efficiency perspective, proposals endorsed by many consumer advocates that suppliers or marketers assume extraordinary service obligations⁵⁴ are specious, since this aspect of the industry no longer ex-

50. CAL. A.B. NO. 1890 (signed Sept. 23, 1996), at § 1(d).

51. N.H. STATE CODE § 374-F:3 V(a).

52. In Ohio, for example, the consideration of retail competition has mobilized consumer protection interests, leading to the proposal of minimum electricity service standards for the first time in the state’s history. See *Ohio Regs Set Service Standards*, ELECTRICITY DAILY, Feb. 9, 1998; Alan Johnson, *State Board Sets Service Standards for Ohio’s Electric Companies*, COLUMBUS DISPATCH, Feb. 6, 1998, at 4E. See also Cam Simpson, *Thousands Without Heat in Area*, CHI. SUN-TIMES, Dec. 9, 1997, at 1 (noting that Illinois’ restructuring legislation contains new low-income customer assistance charges).

53. PETER FOX-PENNER, ELECTRIC UTILITY RESTRUCTURING: A GUIDE TO THE COMPETITIVE ERA 88 (1997).

54. See, e.g., ROGER D. COLTON, THE ‘OBLIGATION TO SERVE’ AND A COMPETITIVE ELECTRIC

hibits natural monopoly characteristics. This does not mean, however, that universal service is without any economic efficiency basis.

Current state retail wheeling plans require, at a minimum, that the power distribution sector of the industry assumes some extraordinary service obligation. There is little agreement among the states about whether the various market institutions interacting with the DisCo in retail markets should also bear extraordinary service obligations. Extraordinary service obligations *can* facilitate access to power supply without undermining efficiency gains, but regulators need to assess carefully the limits of service obligations in competitive markets.

Under most state restructuring plans, for small load customers, such as residential customers, small business, and single location offices, power distribution remains a natural monopoly service. Put another way, a single utility (the DisCo) will continue to provide distribution to supply power for the large bulk of power customers. For most smaller customers who do not have access to capital financing markets or own rights of way to build distribution lines, it is cost prohibitive to duplicate distribution lines as long as the incumbent DisCo itself owns the facilities.⁵⁵ Thus, even in competitive retail markets, the DisCos will initially remain natural monopolies for small residential and commercial customers, at least with respect to the horizontal distribution market.⁵⁶ Following California's approach, to date every state retail wheeling plan has treated power distribution in this manner by defining a *de jure* monopoly for distribution, subject to fairly traditional regulation, effectively defining a new regulatory compact for power distribution.

Further, to date every state that has seriously considered moving to retail competition in the sale of electricity has determined that a "basic service" option must be provided by the DisCo to those who do not choose an alternative supplier for electricity, are refused service by a retail supplier, or have been disconnected.⁵⁷ The DisCo is effectively the supplier of last resort.⁵⁸ In some states, basic service will be regulated at a rate established to be less than the rates immediately prior to competition, thus, minimizing the impact of stranded costs on

INDUSTRY (Report of DOE Office of Economic, Electricity and Natural Gas Analysis, May 1997); BARBARA ALEXANDER & THE NATIONAL CONSUMER LAW CENTER, CONSUMER PROTECTION PROPOSALS FOR RETAIL ELECTRIC COMPETITION: MODEL LEGISLATION AND REGULATIONS (1996).

55. As Vernon Smith has argued, however, joint ventures may work to solve this problem. Vernon L. Smith, *Can Electric Power — A "Natural Monopoly" — Be Deregulated*, in MAKING NATIONAL ENERGY POLICY 131 (Hans H. Landsberg ed. 1993).

56. FOX-PENNER, *supra* note 53, at 88 (citing recent reports by the FERC and the U.S. Office of Technology Assessment, as well as the conclusions of JOSKOW & SCHMALENSSEE, *supra* note 19). However, not everyone agrees. See, e.g., Smith, *supra* note 55. As suggested below, with the growth of micro-turbines and distributed generation, some competition in power distribution will likely be inevitable. See discussion *infra*.

57. Basic service, or the standard offer, is independent of a "safety net" provided in many states for low income customers. Unlike the safety net, basic service or the standard offer is designed to provide stable electricity service without major price fluctuations while, at the same time, providing sufficient education about the available options and benefits of retail competition in electricity — to stimulate consumer choice and interest. This approach to ensuring service access is similar to the minimum standard of coverage recommended in health care reform. See generally John D. Rockefeller IV, *A Call for Action: The Pepper Commission's Blueprint for Health Care Reform*, 26 JAMA 2507, 2509 (1991).

58. A similar model is emerging in the natural gas industry. T.W. Merrill, Jr., *Supplier of Last Resort: Who, What, Why?*, 137 PUB. UTIL. FORT., July 15, 1999, at 18.

small residential customers.⁵⁹

For example, according to Vermont's retail competition restructuring order, "exclusive franchises for distribution" remain necessary. The DisCo "will retain its obligation to plan, build and operate its local distribution system in a manner that ensures safe and reliable service to customers."⁶⁰ Vermont defines the "Basic Service Offer" as "[s]ervice offered to customers by the distribution company but provided by a retail service provider through contract." This service "may be priced either to float with the spot market or fixed on a longer term basis."⁶¹ After the transition to retail competition, this offer, which is limited to franchised customers of DisCos, "will be made available over a contracted period" and "through a retail service provider."⁶²

Since retail competition envisions the fragmentation of utility service into different markets, from generation to transmission to distribution, the implications of continuing the duty to serve will need to be assessed in the context of each of these markets. Given power distribution's *de jure* monopoly status under state retail wheeling plans, with little or no analysis most state regulators look initially to the DisCo as the primary bearer of the traditional duty to serve. However, given the inapplicability of the traditional rate regulation framework for understanding service obligations in the competitive market structure, coupled with the mobilization of interests likely to support imposition of new service obligations, the objective efficiency rationales for continuing to impose an extraordinary service obligation on the incumbent utility require reassessment.

1. Cost Spreading and the Efficiency of Universal Power Distribution Service, But Not Generation

Consider, first, the economic rationales for imposing service extension obligations. Since the DisCo maintains a horizontal monopoly with respect to rights of way and essential network facilities, most customers will continue to have a need for access to distribution from it. At the same time, the DisCo will be in a better position than suppliers or others to spread the costs of service extension, minimizing the economic impact of the distribution network on customers, particularly the poor. Customers, on average, are likely to have higher marginal utilities of money than the DisCo, so imposition on the DisCo of an obligation to provide service and spread the costs may maximize social welfare. So even in a competitive retail market, economic efficiency rationales for requiring the DisCo to extend its distribution network to customers seem to continue. It should be noted, though, that in a deregulated environment where power supply is competitive, the access and cost spreading rationales for the extension obligation apply to distribution service only, not to competitively provided power supply. Put another way, despite an economic rationale for requir-

59. See, e.g., R.I. GEN LAWS ch. 316, § 39-1-27.2(d) & (f); Re Electric Utility Industry Restructuring, No. 95-462 (Me. Pub. Util. Comm'n July 19, 1996).

60. Re Restructuring of the Electric Utility Industry in Vermont, 174 P.U.R.4th 409, 434 (Vt. Pub. Serv. Bd. 1996).

61. *Id.* at 488.

62. *Restructuring in Vermont*, 174 P.U.R.4th at 427.

ing the DisCo to assume some distribution service extension obligation, economic analysis does not require the DisCo to also provide power supply. Thus, without further exploration of the structure of retail power markets, there does not appear to be a strong economic rationale for requiring the DisCo to build generation facilities or procure power supply to serve customers. Nevertheless, to the extent regulators decide to impose basic service obligations on some institutional actor in competitive power markets, the DisCo may also be in the best position to spread the costs associated with basic service.

2. Reassessing the Efficiency of Service Continuation Obligations

With respect to service continuation, the second obligation of the traditional duty to serve, the economic efficiency rationales behind the obligation also require some reassessment. Recall that one of the primary economic efficiency rationales for imposing extraordinary service continuation obligations relates to the utility's status as the superior risk bearer vis-a-vis the customer.⁶³ In deregulated power markets, however, the long-term contract analogy that undergirds application of superior risk bearer analysis to the regulatory compact loses much of its relevance, since customers themselves may select power suppliers on a month-to-month basis.

Further, in a competitive retail market, the same rationales cannot justify imposition of an obligation on a private firm to provide full service at a price below total costs, as often applied under rate regulation. Now, as has been observed, there may be some continuing advantage to avoiding power shut off to the extent that a customer is able to pay the variable portion of the costs associated with the supply and distribution of power. This cost sharing advantage, however, is significantly reduced in a competitive market where power suppliers face alternative customers for their capacity; it may apply to distribution service, but absent excess capacity committed to DisCo customers it does not apply to power supply.

3. Operational and Reliability Efficiencies

Despite these structural and regulatory differences between a competitive market and the traditional regulated industry, efficiency arguments support imposition of *some* service continuation obligation on the DisCo or other suppliers in a competitive environment. With respect to service discontinuation, the physics of power flow may require the DisCo to bear some responsibility if its grid has not been modernized. Once power is supplied to a distribution grid without computerized customer metering, the DisCo is automatically the supplier of last resort to the retail customer; the customer will continue to receive power until it is physically disconnected by the DisCo. So, in certain areas, technology may necessitate some DisCo service continuation obligation.

4. Informational Efficiencies

Another rationale for imposition of a service continuation obligation is that

63. Of course, to the extent that utility risk bearing is desirable, a cost spreading rationale applies as well.

power markets may yield poor information. Assuming that customers have good information about power supply options and the terms of power supply sales contracts, when compared to the DisCo, the customer will be the superior bearer of the risks of service shut off. The customer can purchase supply plans that provide for early warning or, if necessary, insurance to cover the risks of property or other damage due to a loss of power. Many customers, though, may not have adequate information about power supply markets so as to react to the risks of shut off, particularly where shut off is due to technological failure or emergencies. In addition, in competitive power markets, consumers are unlikely to possess the knowledge or experience to react to this information when some reaction, such as the purchasing of power insurance or backup supply options, is in order. Poor information or consumer discounting of risks may require the DisCo or a supplier to assume some service continuation obligation, even in a competitive power supply market. This will be especially true as these markets initially evolve and as regulators embark on the task of educating consumers.

5. Efficient Welfare Policy

Further, given that a welfare system already exists in our market economy, the imposition of service continuation obligations in a competitive power supply market might work to mitigate the incentives the welfare system produces for taking excessive credit risks. As competitive power markets evolve, consumers are likely to be offered credit financing plans for electricity akin to many of the financing plans available for other purchases, such as the purchase of an automobile. Offerers of such sales are likely to provide creative financing options, often offering consumers who are poor credit risks high-cost financing plans. Such risks, to the extent they are repeatedly presented to low-income consumers in a competitive power supply market, will also increase the incidence of default, especially since utilities will not face the same incentives as under rate regulation to continue service with acceptance of partial payment. As customers increasingly default and lose the basic necessities of life, such as electricity service, over time this could both drive up the cost of the welfare system and undermine its poverty reduction goal.⁶⁴ Thus, imposition of a service continuation obligation, even in a competitive market, might be seen as a way of reducing the costs of public welfare programs.

So, although reassessment is necessary, economic efficiency arguments for continuing with some extraordinary service obligations in competitive markets are not completely irrelevant. To the extent economic arguments exist, though, they relate primarily to horizontal integration and the quality of information consumers will likely possess, as with retail competition the market facilitates many of the transactions which the traditional public utility previously coordinated within a single, vertically integrated firm.

6. Monitoring Costs

Beyond these efficiency rationales for universal service in competitive

64. See generally Eric A. Posner, *Contract Law in the Welfare State: A Defense of the Unconscionability Doctrine, Usury Laws, and Related Limits on the Freedom to Contract*, 24 J. LEG. STUD. 283 (1995).

electricity markets, most of which focus on the structural nature of efficient power markets, it must be acknowledged that with deregulation, regulators will bear a heavier monitoring cost in implementing universal service goals for electricity. In contrast to the traditional regulatory structure, where a single natural monopoly firm provided service to all customers within its service territory, multiple firms will now provide a variety of services to these customers. In addition to the Disco, generating companies, power supply companies, and energy service companies, as well as brokers and marketers, will now enter the power markets. Any obligation imposed on entities beyond the DisCo will entail significant monitoring costs for regulators.

7. The Limits of Efficiency: More Explicit Acknowledgment of Fairness and Distributive Justice

To the extent regulators continue to adhere to the constituent obligations of the common law duty, it is likely that they will also need to articulate non-efficiency justifications, such as fairness or distributive justice, to support service obligations in a competitive retail environment. In this sense, retail competition is likely to force more explicit discussion of the costs and benefits of extraordinary service obligations than occurred under the traditional regulatory compact. For example, in Ohio, the discussion of consumer service protections has become explicit with the dawn of competition, while previously consumer protections were often built into utility tariffs on a voluntary basis.⁶⁵

Some consumer advocates have proposed that states extend service obligations to suppliers, marketers, and brokers, and that the DisCos be required to procure basic service power for consumers through mandated bidding criteria or an allocation plan that accurately reflects market power. While there are legitimate concerns that, in the provision of basic service, the DisCo may tend to favor any generation resources it owns over competitively supplied generation, from an efficiency perspective there is no sound basis for extending utility service obligations beyond the DisCo to power suppliers, marketers, and brokers. Few states have been willing to require complete vertical disintegration, but, even absent complete vertical disintegration, unbundling of DisCo power sales and procurement can be achieved financially through requiring the DisCos with generation to bid into a power exchange and to meet all basic power needs with power exchange purchases. Competitive behavior can be minimized without active regulatory oversight by requiring the DisCo to sell all of its power through a power exchange, similar to California's. The power exchange ensures an active spot and futures market for power, reflecting real time prices, and can also facilitate the formation of long-term contracts to meet basic service needs. The power exchange, unlike other approaches, will price based entirely on the market of supply and demand for power. If a DisCo is mandated to bid its power into the exchange before selling basic service to customers, customers purchasing basic service would realize more of the benefits of competition than they would under competitive bidding, because mandatory bidding into a power exchange facilitates decoupling of a DisCo's basic service power purchases from power

65. See *supra* note 52.

sales. Under such an approach, the DisCo has an adequate incentive to purchase the lowest cost power from the exchange or it will risk losing basic service customers to alternative suppliers if those customers opt to participate in the direct retail purchase market. With such institutional reforms, imposition of a duty to serve on the DisCos, to be financed through a system benefits charge, can work simultaneously to facilitate the development of robust power supply markets and pass the new efficiencies of these markets on to consumers without sacrificing access goals.

To the extent a duty to serve continues to apply to the industry, on whatever rationales, competitively priced retail power markets will work to minimize many of the price distortions of cross-subsidization historically associated with extraordinary service obligations. Under the natural monopoly framework, utility service obligations were paid for through cross-subsidies, but rate regulation helped to minimize the market distortions of this practice. Utilities generally were not opposed to assuming service obligations, especially where they worked to enlarge the customer base, so long as they could recover the costs of these obligations from some customers. With retail competition and a movement to market-based pricing, cross-subsidization will continue to exist, but power supply markets will require the DisCos to minimize the impact of subsidies on customers or risk losing customers, especially larger ones, to bypass or other suppliers wheeling on the DisCo system.⁶⁶

IV. CONCLUSION

Cross-subsidies are not without controversy, but the fiction of the regulatory compact coupled with the economics of natural monopoly price regulation have masked the redistributive nature of extraordinary utility service obligations for the past hundred or so years. Under this regulatory framework, public and private interests converged in maintenance of the duty to serve.

Following World War II, the public choice theory began to question the orthodox understanding of government regulation generally and utility regulation in particular, providing the intellectual tools for smashing the regulatory compact in a variety of different industries.⁶⁷ One of the predominant accounts of the growth of utility regulation is regulatory capture – that utilities and other interests, such as consumer groups, secure protection of their interests through the political process by capturing regulation.⁶⁸ For example, as Eli Noam has re-

66. Of course, not all DisCos are willing to accept the service obligations absent some compensation guarantee. George R. Pleatt, *Should Metering Stay at the Stand-Alone Disco?*, 136 No. 3 PUB. UTIL. FORT., Feb. 1, 1998, at 44, 48 (“The most dangerous position for the disco would be as the backstop provider to customers not effectively served by the market. This scenario is almost assured if the disco doesn’t convince those in power to remove the obligation to serve.”).

67. Excellent accounts are provided in JERRY L. MASHAW, *GREED, CHAOS & GOVERNANCE: USING PUBLIC CHOICE TO IMPROVE PUBLIC LAW* (1997); DANIEL A. FARBER & PHILIP P. FRICKEY, *LAW AND PUBLIC CHOICE: A CRITICAL INTRODUCTION* (1991).

68. See generally Gary S. Becker, *A Theory of Competition Among Pressure Groups for Political Influence*, 98 Q.J. ECON. 371 (1983); Sam Peltzman, *Toward a More General Theory of Regulation*, 19 J.L. & ECON. 211 (1976); George J. Stigler, *The Theory of Economic Regulation*, 2 BELL. J. ECON. & MGMT. SCI. 3 (1971).

cently suggested in the telecommunications context, there is a public choice explanation for the existence of a redistributive universal service obligation in the Telecommunications Act of 1996.⁶⁹ Consumers and utilities may have formed a coalition to secure legislative endorsement of the universal service requirement. This inures to the benefit of the average consumer, who now has more pervasive access through interconnectivity and also benefits utilities, as regulators allow recovery of universal service costs by guaranteeing minimum service access charges or rates. If this public choice explanation is applicable to national legislation regulating telecommunications, it would seem even more plausible in the regulation of electricity and natural gas commodities that have developed service obligations primarily at the state level, where state legislatures are likely to be more responsive than the U.S. Congress to the preferences, desires, and needs of state consumers and industries. So modern endorsement of the duty to serve in statutes and regulations in the electricity and natural gas contexts may have resulted not from some public-spirited regulatory compact, but from utilities, consumers, and their representatives securing, or capturing, a regulatory benefit from the political process.

As this article has suggested, however, there may be economic efficiency rationales for universal service in competitive telecommunications markets as well as in emerging physical energy markets in electricity and natural gas, even once the regulatory compact has been reassessed as a rationale for regulation. Retail competition in most public utility industries, such as telecommunications, natural gas, and electricity, is here to stay. With it the laws and regulatory concepts invoked to regulate public utilities since the Gilded Age are undergoing a transformation. It will become important that, in addressing the financing of extraordinary service obligations, regulators avoid building into competitive retail markets structural mechanisms that harm consumers. As this article has suggested, in the initial restructuring of the regulated utility markets, to the extent regulators or courts extend the duty to serve beyond incumbent distributors, to suppliers and marketers, new inefficiencies may result. Imposition of basic service obligation on the DisCo, to be fulfilled through voluntary procurement of power supply and financed through a system benefits charge, minimizes the inefficiency of imposing a service obligation in a competitive market.

Despite efforts to maintain the *de jure* monopoly status of power distribution, competition may prove inevitable in the long run even for this segment of the electricity industry. Increasingly, the availability of distributed generation threatens the need for power distribution as adequate substitutes may be available to customers who can afford generation. Due to the growth of distributed generation, the power generation industry may be set for a future similar to the current main frame computer industry, which has been seriously threatened by the desk-top personal computer industry.⁷⁰ Some have suggested that power

69. Eli M. Noam, *Will Universal Service and Common Carriage Survive in the Telecommunications Act of 1996?*, 97 COLUM. L. REV. 955, 958-63 (1997).

70. Matthew Carolan & Raymond J. Keating, *Microturbines: The Engine of Deregulation*, INVESTOR'S BUS. DAILY, Dec. 15, 1997, at A40; Laurence Zuckerman, *Tiny Turbine: The Next Generator?; Company Hopes Its Small Unit Will Dominate Power Market*, N.Y. TIMES, Dec. 2, 1997, at D1.

distribution may ultimately become a competitive or contestable industry.⁷¹ To the extent these developments occur, the ability of a single DisCo to recover the costs of its extraordinary service obligations through a system benefits charge for a geographic area will be weakened significantly. In competitive distribution markets, a more efficient way to finance service obligations may be through a national sales tax on power distribution or supply coupled with federal voucher and service extension grant programs to guarantee minimum service quality.⁷²

Enhanced retail competition in historically regulated markets need not mean the end of traditional doctrines of public utility law, such as the duty to serve. Yet, regulators must be bold and creative in approaching the content and financing of extraordinary service obligations for new actors in these markets, while keeping a keen eye on minimizing the structural inefficiencies such obligations pose. Careful study and appreciation of the distinct economic and institutional structures of various utility service markets will be necessary to provide sound guidance for regulators as they apply the duty to serve to competitive retail industries. At each step of this analysis regulators must not only ask whether there are efficiencies to be gained. Clearly there are, but the challenge regulators face is to devise ways of passing these new efficiencies on to the average consumer.

71. Thirty years ago, Harold Demsetz observed that the history of utilities has been characterized by competition for service areas. Harold Demsetz, *Why Regulate Utilities?* 11 J. LAW & ECON. 55, 59 (1968) ("There is scarcely a city in the country that has not experienced competition in one or more of the utility industries.") (quoting BURTON N. BEHLING, *COMPETITION AND MONOPOLY IN PUBLIC UTILITY INDUSTRIES* 19-20 (1938)). Of course, the availability of distributed generation may make power distribution competitive in the sense that for some customers switching to self-generation may make distribution unnecessary, so distribution markets will begin to compete with the availability of affordable self-generation, as they already do for some large industrial customers. In addition, some economists suggest that power distribution networks can operate in a competitive manner if property rights are defined so as to facilitate the development of joint ventures. See, e.g., Smith, *supra* note 55.

72. These alternatives are discussed further in Jim Rossi, *The Common Law "Duty to Serve" and Protection of Consumers in an Age of Competitive Retail Public Utility Restructuring*, 51 VAND. L. REV. 1233 (1998).

