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The Common Law "Duty To Serve" and Protection of Consumers in an Age of Competitive Retail Public Utility Restructuring

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> Wires from 10-month-old Montray Cadet's chest lead to a machine that signals if his heart stops. The sick baby often is fed through a tube in his stomach. A hole in his trachea helps him breathe.
>
> Montray needs machines to survive, yet last month the power company turned off the electricity to the baby's Orlando apartment because his parents hadn't paid the bill for three months.[1]

I. INTRODUCTION

People like young Montray Cadet and his family will increasingly face the possibility of shut-off and limited access to utility services, such as telecommunications, natural gas, and electricity, as these industries—traditionally subject to obligations to serve customers—are deregulated. Already, the natural gas industry's introduction of retail competition in states like New York has been alleged to adversely affect the quality of and access to gas, essential to many New Yorkers for heating, and has led to the filing of a lawsuit against the state by consumer advocates.[2]

Can vigorous retail competition of the type public utility deregulation envisions coexist with extraordinary obligations to serve customers? If so, at what costs? Who will bear these costs? These questions are central to an emerging law and economic analysis known as the "jurisprudence of network industries,"[3] which is of paramount importance as regulators and courts implement competition in traditional public utility industries. Yet, to date there has been little analysis of how customer service obligations in public utility law will be affected at the dawn of the new competitive era brought about by deregulation.

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1. Mike Oliver, *When Electricity is a Lifeline, Should it Ever Be Cut?*, ORLANDO SENTINEL, Oct. 19, 1997, at A1.

2. *See* Gerald A. Norlander, *Retail Choice: A Race to the Bottom*, PUB. UTIL. FORT., Jan. 1, 1998, at 8 (letter to the editor).

3. J. Gregory Sidak & Daniel F. Spulber, *Deregulatory Takings and Breach of the Regulatory Contract*, 71 N.Y.U. L. REV. 851, 856 (1996) [hereinafter *Deregulatory Takings*]; *see also* J. GREGORY SIDAK & DANIEL F. SPULBER, DEREGULATORY TAKINGS AND THE REGULATORY CONTRACT: THE COMPETITIVE TRANSFORMATION OF NETWORK INDUSTRIES IN THE UNITED STATES (1997). For criticism, see generally William J. Baumol & Thomas E. Merrill, *Deregulatory Takings, Breach of the Regulatory Contract, and the Telecommunications Act of 1996*, 72 N.Y.U. L. REV. 1037 (1997) (questioning Sidak and Spulber's argument); Stephen F. Williams, *Deregulatory Takings and Breach of the Regulatory Contract: A Comment*, 71 N.Y.U. L. REV. 1000 (1996) (analyzing Sidak and Spulber's argument); Oliver E. Williamson, *Deregulatory Takings and Breach of the Regulatory Contract: Some Precautions*, 71 N.Y.U. L. REV. 1007 (1996) (discussing reservations regarding Sidak and Spulber's argument). Sidak and Spulber respond to their critics in *Givings, Takings and the Fallacy of Forward-Looking Costs*, 72 N.Y.U. L. REV. 1068 (1997).

For hundreds of years, public utilities have assumed obligations to extend service to customers within their service territories and to continue providing service once service has commenced.[4] At common law and under statutes and regulations passed in the twentieth century by state and federal regulators, public utilities are obligated—largely as conditions of their monopoly franchises—to provide service to all customers within their service territories, sometimes even when the cost of providing service to a customer is in excess of the anticipated revenue from that customer.[5] Although ordinary private businesses may unilaterally refuse to deal with particular customers and set the terms and conditions under which they contract pursuant to antitrust laws,[6] utilities are held to significantly more rigorous dealing requirements and service terms and conditions.[7]

Yet today, public utilities' service obligations—which I will collectively refer to as the "duty to serve"—face their largest challenge

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4. *See* CHARLES M. HAAR & DANIEL W. 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."); Policy and Rules Concerning Rates for Competitive Common Carrier Services and Facilities Authorizations Therefor, 84 F.C.C.2d 445, 520 (1981) (exploring common law origins of the duty to serve) [hereinafter *FCC Origins of the Duty to Serve*]. 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, 1298 (1996) ("the most plausible statement of the law is that all businesses open to the public had a duty to serve the public"); *see also* David S. Bogen, *The Innkeeper's Tale: The Legal Development of a Public Calling*, 1996 UTAH L. REV. 51, 53 (arguing that the legal rule requiring innkeepers to serve the public derived from a concern for criminal activity in the inn and the eventual imposition of strict liability on innkeepers and common carriers for their customers' goods).

5. For a description, see *infra* Part II.

6. *See* 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).

7. For example, in the telecommunications industry, the extraordinary obligations applicable to service providers have come to be known as "universal service," recently endorsed by the United Statos Congress in the Telecommunications Act of 1996, Pub. L. No. 104-104, § 254, 110 Stat. 71 (1996) (directing Federal Communications Commission (FCC) te 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. *See In re* Federal-State Joint Bd. on Universal Serv., FCC Docket No. 96-45 (May 7, 1997) (discussing plans to implement universal access for all schools and libraries). These rules have been clarified in several orders on reconsideration, most recently in December 1997. *See 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 generally 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 website (visited Feb. 1, 1998) <http://www.benton.org/>.

ever. Competition has dawned on the electricity, natural gas and telecommunications industries. These industries were previously dominated by the staid "public utility," a large vertically-integrated firm that provides service to all customers within its geographically-defined service area. With the growth of competition, regulators and courts face new issues regarding the protection of consumers, particularly residential customers who historically have purchased their service at retail from the incumbent public utility serving their community. Not surprisingly, one regulatory development that is especially threatening to small customers is the growth of retail competition—the introduction of a choice of supplier for all consumers of utility service. Some states will soon implement retail competition and others are considering it as a serious policy proposal for telephonic, natural gas, and electricity services, although none of these historically regulated public utility industries has completely implemented retail competition. For example, the Telecommunications Act of 1996 endorsed several policies designed to promote retail competition in local telephony.[8] In the natural gas industry, deregulated by the Federal Energy Regulatory Commission ("FERC") in 1992,[9] local gas distribution companies are already beginning to offer many customers retail choices in many states.[10]

Though impending, competitive reforms to the electricity industry lag behind reforms in the telecommunications and natural gas industries.[11] Access to electricity service, however, is a necessity for many—probably of greater social and economic consequence than access to telephonic or natural gas service.[12] This Article focuses on

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8. Telecommunications Act § 251. Part II of the Telecommunications Act of 1996, "Development of Competitive Markets," deals with competition.

9. *See infra* notes 189-91 and accompanying text.

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

11. The development of competition in electricity is not a U.S.-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. *See* Council Directive 96/92 Concerning Common Rules for the Internal Market in Electricity, 1997 O.J. (L 27) 20 (requiring member states te take measures to open up markets for electricity). *See generally* A.M. Klom, *Effects of Deregulation Policics on Electricity Competition in the EU*, 15 J. ENERGY & NAT. RESOURCES L. 1 (1997).

12. For example, far more low income households have access to electricity than telephone service. According to one study, penetration of electricity service approaches 100 percent, even for low income customers, while 56 percent of the population relying on public assistance lives

the growth of retail competition in the electric utility industry, referred to as "retail wheeling," and its implications for the traditional public utility duty to serve. With retail competition, a power generator can sell electricity directly to an end use customer, such as a residence, school, or business. For customers, retail competition promises to offer a "choice"[13] of power suppliers.[14] Laws in many states currently prohibit such retail shopping[15] or allow it for only a limited class of customers, typically large commercial and industrial customers.[16] However, in recent years states experimenting with competition in the electric power industry have introduced retail wheeling. California, Illinois, New Hampshire, Rhode Island, and Vermont, among others, have recently adopted statutes or regulations to facilitate a complete transition to retail wheeling, and many other states are considering the adoption of reforms as well.[17] Congress is also considering federal legislation designed to facilitate the growth of retail power markets.[18]

The duty to serve is richly steeped in the common law and in the history of American industry. Part I of this Article addresses the

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without telephone service. *See* ROGER D. COLTON, THE 'OBLIGATION TO SERVE' AND A COMPETITIVE ELECTRIC INDUSTRY 47 (May 1997 Draft).

13. I place "choice" in quotation marks because, as is discussed below, consumer choice is a little misleading when applied to the electricity industry. Electricity does not travel over a contract path between suppliers and customers and thus consumers will not be able to choose specific suppliers for the power they consume, although they may be able to select a supplier for dispatch to a distribution system. *See infra* text accompanying note 128 (discussing technical characteristics of electricity).

14. For a description of retail competition and some of its practical problems, see generally Bernard S. Black & Richard J. Pierce, Jr., *The Choice Between Markets and Central Planning in Regulating the U.S. Electricity Industry*, 93 COLUM. L. REV. 1339 (1993); *see also* Richard D. Cudahy, *Retail Wheeling: Is This Revolution Necessary?*, 15 ENERGY L.J. 351, 351-52 (1994); *infra* Part III.B.

15. Florida is one example. *See* TEC Cogeneration, Inc. v. Florida Power & Light Co., 76 F.3d 1560, 1568 (11th Cir. 1996) (holding that antitrust litigation over independent cogenerator access to transmission facilities was precluded because of the state action doctrine where a pervasive regulatory scheme prohibits requiring utility transmission of a supplier's power absent an exact identity of ownership between the generator and the end use consumer); *see also* FLA. ADMIN. CODE ANN. r. 25-17.0882 (1997) (requiring exact identity of ownership); PW Ventures, Inc. v. Nichols, 533 So.2d 281, 284 (Fla. 1988) (precluding cogenerator from selling power to a retail customer).

16. Regardless of whether retail wheeling is allowed de jure by states, large commercial and industrial customers have retail power supply choices pursuant to federal law. *See infra* Part III.A.

17. *See* Benjamin A. Holden, *Electric-Deregulation Machine Starts to Pick Up Steam: Fearing Federal Action and the Flight of Business, States are Taking Steps*, WALL ST. J., July 14, 1997, at B4 (describing the "trickle" of states addressing retail competition as "turning into a flood"); *see also infra* Part III.B (discussing various stato retail competition plans).

18. *See* Joseph F. Schuler, Jr., *Bipartisan Energy Politics? 105th Congress Takes on Restructuring in Earnest*, PUB. UTIL. FORT., Mar. 15, 1997, at 18 (describing key bills before Congress).

historical and intellectual origins of the duty to serve in the utility industry. Although it has been largely supplanted in the modern age by regulations implemented by utility governing boards or by voluntary tariffs, the public utility duty to serve has some foundation in the common law regulation of mills, ferries and the like. It is comprised of distinct obligations to extend service, and to maintain certain quality standards once service commences. Not surprisingly, it has been a particularly important tool for consumer advocates in the electric utility industry.[19] While the service obligations applicable to utilities are analogous to the obligations applicable to private businesses under public accommodations laws,[20] I argue that the obligations applicable to utilities are extraordinary, often requiring utilities to extend and provide service to customers where it is not always profitable to do so.

Extraordinary utility service obligations have fairness and distributive goals. Yet, they also have an intellectual basis in modern economic theory, particularly theories of monopoly regulation. The economic efficiency rationales for the common law obligations vary somewhat across different utility industries. 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. Part I shows that this efficiency rationale is tenuous when applied to the natural gas and electricity industries. However, as Part I illustrates, the intellectual framework of a "regulatory compact" approach to regulating utility franchises and prices, coupled with a Williamsonian transaction cost economic analysis, provides an economic efficiency justification for extraordinary utility service obligations in these industries.

Part II of this Article describes the introduction of competition to the electric utility industry and the emergence of retail wheeling. Wholesale competition in the electric utility industry is well underway, brought on by federal legislation passed in 1992 and a major rulemaking adopted by FERC in 1996.[21] Retail competition is cur-

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19. Several reports published in recent years address the importance of the duty to serve for consumers of electricity in light of recent changes to the regulatory structure of the industry. *See generally* BARBARA ALEXANDER, THE NATIONAL CONSUMER LAW CENTER, CONSUMER PROTECTION PROPOSALS FOR RETAIL ELECTRIC COMPETITION: MODEL LEGISLATION AND REGULATIONS (1996) [hereinafter CONSUMER PROTECTION PROPOSALS]; ROBERT E. BURNS ET AL., THE NATIONAL REGULATORY RESEARCH INSTITUTE, ALTERNATIVES TO UTILITY SERVICE DISCONNECTION (1995); MARGOT FREEMAN SAUNDERS ET AL., NATIONAL CONSUMER LAW CENTER, ACCESS TO UTILITY SERVICE (1996); COLTON, *supra* note 12..

20. *See* Singer, *supra* note 4, at 1298 (discussing duty te serve the public).

21. *See infra* note 188 and accompanying toxt.

rently being addressed by over a dozen states and in several federal legislative proposals. Most agree that in coming years the transition to retail competition in electricity will be inevitable. Although details remain tentative, Part II sketches the general form that retail competition in power markets will likely take.

In Part III, I address the widely-perceived tension between the duty to serve and the growth of retail power markets.[22] Based on a study of state retail competition plans to date, I also survey the various alternatives for implementing universal access to electricity service in an age of retail competition, with the objective of minimizing the structural inefficiencies of promoting access goals.[23] Many reformers look askance at the duty to serve in competitive retail utility service markets. The ostensible tension between the duty to serve and economic efficiency has been acknowledged by leading commentators in the telecommunications context, who observe that there is an inherent "conflict" between economic efficiency and universal service in the telephone industry.[24] So too have commentators observed a tension between retail competition in electricity and the duty to serve.[25]

As I suggest in Part III, the conflict between retail competition and the duty to serve need not lead to the immediate abandonment of

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22. This tension, perhaps, is one that inhabits a variety of industries and social programs. *See generally* ARTHUR M. OKUN, EQUALITY AND EFFICIENCY: THE BIG TRADEOFF (1975).

23. For early efforts to address the related tension between wholesale competition and utility service obligations, see generally 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 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); Joe D. Pace, *Wheeling and the Obligation to Serve*, 8 ENERGY L.J. 265 (1987) (warning of potential conflict, but offering no specific solution). This Article provides a more complete approach than these earlier efforts, in part 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, not wholesale, customers and applies generally to restructured public utility industries, not just electricity.

24. *See* WILLIAM J. BAUMOL & J. GREGORY SIDAK, TOWARD COMPETITION IN LOCAL TELEPHONY 25 (1994) [hereinafter TOWARD COMPETITION]; *see also* Livia Solange West, Note, *Deregulating Telecommunications: The Conflict Between Competition and Universal Service*, 9 DEPAUL BUS. L.J. 159, 175 (1996) ("[u]niversal service . . . results in inefficient usage").

25. 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. *See* Jonathon A. Lesser & Malcolm D. Ainspan, *Retail Wheeling: Deja Vu All Over Again?*, ELECTRICITY J., Apr. 1994, at 34, 40-41.

extraordinary service obligations, to the extent these obligations remain desirable social goals. While this Article adopts an agnostic stance towards the fairness and distributional goals of the common law duty to serve,[26] I argue that, in the short run, application of extraordinary service obligations to distribution companies that succeed public utilities in providing sales to small customers can coexist with improved efficiency in retail power markets. Continuation of extraordinary service obligations will continue to have costs—greater costs than existed under full regulation—but these costs can be minimized in a way that is consistent with retail competition, so long as distribution remains a natural monopoly and regulators do not hold other market actors to extraordinary service obligations. At the same time, I urge reassessment of the broad common law duty to serve that has characterized the utility industry over the last hundred or so years. For some services in a competitive electricity industry, I suggest, the duty to serve will be replaced by a legal obligation to pay, enforced through the mechanisms of contract law. I suggest that, to facilitate efficient retail power markets, the duty to serve be initially limited to incumbent utilities providing distribution services. On an interim basis, the duty to serve can be financed through imposition of a system benefits charge on distribution customers.[27] To minimize structural inefficiencies associated with service obligations in this interim period, however, regulators must make efforts to unbundle generation from distribution, either structurally or financially, and set appropriate exit fees to avoid uneconomic bypass.[28]

In the longer run, I suggest, power distribution may lose its natural monopoly status, becoming competitive or at least contestable. Should this occur, to the extent that the service access goals associated with the duty to serve remain desirable, a system benefits charge will no longer provide adequate financing. Instead, a national

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26. Unfortunately, te the extent arguments have been made, many of the redistributional arguments in favor of the duty to serve lack analytical rigor. A plausible set of analytical tools for measuring the duty to serve against distributional goals is Edward Zajac's stakeholder-fairness-efficiency framework, which borrows heavily from political theory as well as economics. *See generally* EDWARD E. ZAJAC, POLITICAL ECONOMY OF FAIRNESS (1995).

27. Although the economic and policy goals may differ, the system benefits charge can be used to finance both consumer protection and environmental programs. Thus, many observations regarding efficient imposition of the system benefits charge for purposes of promoting consumer protection may also be applicable to environmental programs, such as demand-side management.

28. Uneconomic bypass is bypass that might reduce costs to one customer but increases overall average network costs, thus creating costs for all customers. *See* Paul W. MacAvoy et al., *Is Competitive Entry Free? Bypass and Partial Deregulation in Natural Gas Markets*, 6 YALE J. ON REG. 209, 244 (1989) (discussing how regulatory actions may lead to uneconomic bypass).

retail sales or industry tax on electric power supply may be necessary to fund access for low income customers. A national sales or power supply tax on electricity will likely prove the most efficient mechanism for enhancing access to utility service in competitive retail markets by allowing competition or contestability in power distribution, forcing explicit consideration of cross-subsidies, and minimizing power supply market distortions. It is doubtful, however, that such a tax will be enacted in the near future, so for the time being regulators must take seriously the implementation and monitoring of interim extraordinary service obligations. Extraordinary service obligations can continue to survive in retail power markets, even if we abandon natural monopoly models for sectors of the industry, but continuation of these obligations will ultimately require more explicit political commitment—and thus improved accountability—by regulators.

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

Building on an ancient common law duty that applied to public utilities such as ferries, mills, and railroads, most state regulatory commissions in the twentieth century have imposed upon public utilities a "duty to serve"—an obligation to provide extraordinary levels of service to customers, especially small residential customers. The link between the public utility concept and the duty to serve has an extremely rich history in law. It has survived many different regulatory eras and institutional arrangements, garnering a variety of intellectual explanations.[29]

Not all, though, see the obligations borne by utilities as unique. Joseph William Singer, in his recent survey of common law obligations applicable to private businesses, suggests that the duty to serve is a general relational one—an obligation to provide service that attaches to all private firms holding themselves out to the public as willing to provide service.[30] Singer may be right that the common law

29. *See generally* Norman F. Arterburn, *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); 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); Bruce Wyman, *The Law of the Public Callings as a Solution of the Trust Problem*, 17 HARV. L. REV. 156, 161 (1903) [hereinafter *Public Callings*] (suggesting that "virtual monopoly" is the distinguishing feature of public utilities).

30. *See* Singer, *supra* noto 4, at 1294 (noting "there is a substantial argument that the duty to serve the public extended to all businesses that held themselves out as open to the

imposed some access obligations on most private firms. But the obligations of a regulated utility providing service are *extraordinary*—much more extensive than the obligations of other private firms providing products or services to consumers, such as banks, restaurants, or retail stores.

As applied today in most states, the public utility duty to serve entails several obligations, among them duties to interconnect and extend service if requested, to provide continuing reliable service, to provide advanced notice of service disconnection, and to continue service without full payment. Unlike other obligations that apply to private firms, even those representing or holding themselves out to serve the public, the duty to serve applicable to utilities requires the provision of service even where it is not profitable. These extraordinary obligations were first given intellectual justification in the legal literature by the early twentieth century Harvard Law School Professor Bruce Wyman,[31] whose writings towards the end of the Gilded Age form a basis for the modern regulatory compact understanding of utility law.[32] This Part discusses the common law and intellectual origins of the public utility duty to serve, the introduction of the duty to serve into modern regulatory law, and some of the economic efficiency rationales supporting imposition of an extraordinary service obligation on regulated public utilities.

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public"). Singer's reading of the case law, motivated in part by a concern with expanding public accommodations law te include retail establishments, finds some early intellectual support in Burdick, *supra* note 29, at 515 (arguing that holding out te the public a willingness to provide service, not "virtual monopoly," is key to triggering utility service obligations).

31. Wyman's reputation is not an untarnished one. In a little mentioned, but fascinating, episode in the Harvard Law School's history, Wyman, the first administrative law professor at Harvard, resigned his chair in 1913 over a controversy regarding some speeches he made about a pending investigation inte the affairs of New Haven Railroad. Wyman, speaking as a scholar, publicly advocated some views in favor of the railroad's position, while under an annual retainer by the railroad. At the time, Louis D. Brandeis was the leading instigator of the New Haven investigation. *See generally* ARTHUR E. SUTHERLAND, THE LAW AT HARVARD: A HISTORY OF IDEAS AND MEN, 1817-1967, at 217 (1967) (discussing the events leading to Wyman's resignation). It has been reported by Felix Frankfurter that Wyman's public advocacy attacked Brandeis' book *Other People's Money and How the Bankers Use It*, but this seems unlikely given that the book was not published until the year after Wyman's resignation. Frankfurter also recounts that Wyman's forced resignation opened up a position for Frankfurter to join Harvard's faculty. *See generally* HARLAN B. PHILLIPS, FELIX FRANKFURTER REMINISCES (1960). The rest is history.

32. *See* Wyman, *Public Callings*, *supra* note 29, at 161 (suggesting that "virtual monopoly," giving rise to an obligation to serve all, is the distinguishing feature of public utilities, whereas virtual competition is the distinguishing feature of private business). *See generally* BRUCE WYMAN, WYMAN ON PUBLIC SERVICE CORPORATIONS (1911) [hereinafter PUBLIC SERVICE CORPORATIONS].

A. Common Law Antecedents

The duty to serve can be traced to the English common law, which recognized that monopolies granted by the King entailed certain obligations. Lord Chief Justice Hale, in his treatise on seaports, *De Portibus Maris*, stated:

> A man, for his own private advantage, may, in a port or town, set up a wharf or crane, and may take what rates he and his customers can agree for cranage, wharfage, housellage, pesage; for he doth no more than is lawful for any man to do, viz., makes the most of his own . . . If the king or subject have a public wharf, unto which all persons that come to that port must come and unlade or lade their goods as for the purpose, because they are the wharfs only licensed by the king . . . or because there is no other wharf in that port, as it may fall out where a port is newly erected; in that case there cannot be taken arbitrary and excessive duties for cranage, wharfage, pesage, etc., neither can they be enhanced to an immoderate rate; but the duties must be reasonable and moderate, though settled by the king's license or charter. For now the wharf and crane and other conveniences are affected with a public interest and they cease to be juris privati only; as if a man set out a street in a new building on his own land, and it is now no longer bare private interest, but is affected by a public interest.[33]

Hale's writings reflected an earlier tradition,[34] but one that would become extremely influential in twentieth century American regulation of the telephone, natural gas, and electricity industries.

Medieval mills are perhaps the strongest analogy to the modern public utility. Without access to the services of a mill, the inhabitants of a medieval village or manor were left without flour for bread or malt for brewing.[35] Yet the construction of a mill had to be financed by the lord, who needed an adequate incentive to invest capital in a facility large enough to provide access to everyone in the village or manor.[36] Thus, in medieval times, the "mill-soke" obligation, enforced by injunction in the Manor Court, compelled all inhabitants of the medieval manor to grind all grain at the lord's mill.[37] The feudal law of mills has been described by Professors Charles Haar and Daniel Fessler, the authors of a comprehensive modern study of the duty to serve, as arising from two primary factors: (1) access to a mill

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33. MATTHEW HALE, DE PORTIBUS MARIS (1670) (1 HARGRAVE LAW TRACTS 77-78 (1787)), *quoted in* Munn v. Illinois, 94 U.S. 113, 127 (1876).

34. Norman Arterburn, writing early in the twentieth century, placed its origins around the time of the Black Death. *See* Arterburn, *supra* note 29, at 421-24.

35. *See* H.S. BENNETT, LIFE ON THE ENGLISH MANOR: A STUDY OF PEASANT CONDITIONS 130-31 (1937).

36. *See id.*

37. *See id.*

was a necessity for all local inhabitants, and (2) a relatively large investment was required to finance construction.[38]

While mills were regulated primarily at the local level, the duty to serve was later extended to crown-answering services, such as ferries and markets. *Tripp v. Frank*, a ferry case decided in England in 1792, is illustrative.[39] Tripp, the lessee of a common ferry that provided service across the River Humber, had claim to an exclusive right granted by the Crown to provide travel service between Barton (where the Lincoln road initially terminated) and Kingston, a major shipping point between York and London.[40] Tripp's franchise was exclusive but others, such as Frank, had limited rights to water carriage on the Humber. In the case, it was conceded that Frank possessed a right to operate a market boat that departed from Barrow, two miles to the East of Barton, and that Frank also provided some service to Kingston. Tripp maintained, however, that Frank's right to provide this service was limited to high-demand times, particularly days during which a regional market was operating in Kingston.[41]

When the Lincoln road was extended from Barton to Barrow, it became possible for a person traveling from York to quicken the journey by proceeding directly to Barrow. Not surprisingly, following the road's extension Frank saw it profitable to expand his service.[42] Tripp filed a complaint, taking the position that the profits from Frank's expanded service were the rewards of Tripp's ferry. A jury in York returned a verdict for Tripp with a nominal award of one shilling,[43] and Frank appealed. On appeal, in response to a question from the court, Tripp admitted that he had no obligation to provide service to any place other than Barton.[44] Lord Chief Justice Kenyon, commenting on the implications of Tripp's obligation to provide service to Barton, observed:

> If certain persons wishing to go to Barton had applied to the defendant, and he had carried them at a little distance above or below the ferry, it would have been fraud on the plaintiff's right, and would be the ground of an action . . . . [However] it is absurd to say that no person shall be permitted to go any other place on the Humber than that to which the plaintiff chuses to carry them. It is now admitted that the ferryman cannot be compelled to carry

38. *See* HAAR & FESSLER, *supra* note 4, at 69.
39. 100 Eng. Rep. 1234 (1792).
40. *See id.*
41. *See* HAAR & FESSLER, *supra* note 4, at 97-98.
42. *See Tripp*, 100 Eng. Rep. at 1235.
43. *See id.*
44. *See id.*

> passengers to any other place than Barton: then his right must be commensurate wuth his duty.[45]

Tripp had rights under his franchise, but in order to establish competitive injury he would need to establish that travelers who presented themselves in Barrow did so with fraudulent intent.

Building on precedents such as *Tripp v. Frank*, the duty to serve was given a creative extension by American judges in the late nineteenth century. At this time, abuses by railroads were of particular concern. For example, Standard Oil would agree to make a railroad its exclusive carrier in a certain region if, in exchange, the railroad would agree to aid Standard in fighting competitors. Standard Oil demanded a rate of ten cents a barrel whereas other shippers were to pay thirty-five cents a barrel, and Standard enforced this demand by threatening to withdraw its entire business.[46]

Initially, only the state courts were active in stemming railroad abuses.[47] The most common approach was to promote equal terms of access. In *Messenger v. Pennsylvania Railroad Company*, the New Jersey Court of Errors and Appeals addressed the service obligations of railroads, stating "[t]his public good is common, and unequal and unjust favors are entirely inconsistent with the common right."[48] It further suggested that railroads, as common carriers, stand in a trust relationship with the public:

> But there is an additional ground upon which [discriminating in rates] is also objectionable.... [I]n the grant of a franchise of building and using a public railway ... there is an implied condition that it is held as a *quasi* public trust, for the benefit of all the public, and that the company possessed of the grant must exercise a perfect impartiality to all who seek the benefit of the trust.... [I]n their very constitution and relation to the public, there is necessarily implied a duty on their part, and a right in the public, to have fair treatment and immunity from unjust discrimination. The right of the public is equal in every citizen, and the trust must be performed so as to secure and protect it.[49]

As a condition to the grant of a monopoly franchise, courts routinely prohibited any rate differential that was not justified by overwhelming economic or public policy rationales. According to the New Hampshire Supreme Court:

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45. *Id.*
46. *See* WILLIAM LARRABEE, THE RAILROAD QUESTION 160-62 (1893).
47. *See* WYMAN, PUBLIC SERVICE CORPORATIONS, *supra* note 32, at chs.7-40.
48. 37 N.J.L. 531, 537 (1874).
49. *Id.* at 536-37.

> That is not, in the ordinary legal sense, a public highway, in which one man is unreasonably privileged to use a convenient path, and another is unreasonably restricted to the gutter; and that is not a public service of common carriage, in which one enjoys an unreasonable preference or advantage, and another suffers an unreasonable prejudice or disadvantage.[50]

Most courts rejected railroads' arguments that, in the absence of statute, they were required to provide reasonable, but not equal, rates.[51] Railroads, as a condition of their monopoly franchises, clearly bore the burden of justifying any differential in rates.

Before the passage of the Sherman and Clayton Acts,[52] courts admonished the usage of exclusive contracts. In the latter decades of the nineteenth century, state courts prohibited railroads from granting exclusive privileges for purposes of creating an express monopoly. Cases from Pennsylvania, Maine, and New Hampshire are illustrative. *Sandford v. Railroad Co.*, a case decided by the Pennsylvania Supreme Court in 1855, recognized the "public nature" of the railroad company and stated, "[a]n express company engaged in the business of transporting small packages has as good a right to the benefits of the railroad as the owners of the packages possess in person."[53] This opinion's closing words made a historical analogy to the regulation of mills:

> Such a power in a railroad corporation might produce evils of the most alarming character. The rights of the people are not subject to any such corporate control. Like the customers of a grist-mill they have a right to be served, all other things equal, in the order of their applications. A regulation, to be valid, must operate on all alike.[54]

Maine upheld a state statute challenged by a defendant railroad company, noting that the statute merely restated principles of the old common law:

> The very definition of a common carrier excludes the idea of the right to grant monopolies or to give special and unequal preferences. It implies indifference

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50. McDuffee v. Portland & Rochester R.R., 52 N.H. 430, 450 (1873) (holding the railroad liable for discrimination in its performance of its public service of transportation).

51. *See* HAAR & FESSLER, *supra* note 4, at 128. *But see* Johnson v. Pensacola & Perdido R.R., 16 Fla. 623, 667-78 (1878) (stating that charges must be measured against the value of the service performed "not by what is charged another").

52. Sherman Act, 15 U.S.C. § 1 et seq. (1994) (originally enacted in 1890); Clayton Act, 15 U.S.C. § 12 et seq. (1994) (originally enacted in 1914). These federal statutes were designed to curtail monopolistic abuses. For further discussion, see HERBERT HOVENKAMP, ENTERPRISE AND AMERICAN LAW 1836-1937, at 276-85 (1991).

53. 24 Pa. 378, 381 (1855).

54. *Id.* at 381.

> as to whom they may serve, and an equal readiness to serve all who may apply, and in the order of their application. The defendants derive their chartered right from the State. They owe an equal duty to each citizen. . . . Such is the common law on the subject. The legislation of the State has been in accordance with and in confirmation of these views.[55]

McDuffee v. Portland & Rochester Railroad, a New Hampshire case, followed four years later with a refusal to allow the grant of an exclusive contract.[56]

B. The Growth of the Modern Regulatory Compact

Over the past century and a half or so, two discernable periods characterize American regulatory law. The first, stretching from approximately the 1870s until the end of the century, featured direct judicial intervention in regulation of public utility monopoly franchises. The second era, beginning at the turn of the twentieth century, was dominated by the establishment of new regulatory commissions, subject to direct judicial review. As the twentieth century progressed, the judicial doctrines regarding the duty to serve were eventually enshrined into statutes or administrative regulations—sometimes with modifications—or were adopted voluntarily by utilities in their tariffs. However, the duty to serve is richly steeped in the common law, and many of its direct judicial remnants continue to survive.

1. Judicial Applications to Monopolistic Industries

The early American public utility cases on the duty to serve, building on the ferry and railroad common carrier cases, involved the refusal of telephone service. Telephone companies—the functional equivalent of telegraph companies, which were long-regarded as common carriers—almost always lost these cases. Like railroads, telephone companies were under a duty to provide access to all customers on an equal basis.[57]

By the 1890s, the duty to serve had also been extended to gas companies. The Indiana Supreme Court, for example, imposed an unequivocal duty to provide service upon a gas company after the

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55. New England Express Co. v. Maine Cent. R.R., 57 Me. 188, 196-97 (1869).

56. *See* 52 N.H. 430, 448-49 (1873) (stating that a common carrier assumes a public duty).

57. *See* State *ex rel.* Webster v. Nebraska Tel. Co., 22 N.W. 237, 238-39 (Neb. 1885) (noting that the telephone, like the telegraph, is a common carrier).

company had refused to serve a potential customer connected to its mains. The court reasoned:

> Mr. Beach, in his work on Private Corporations, (volume 2, § 835) says: "Gas companies, being engaged in a business of a public character, are charged with the performance of public duties. Their use of the streets, whose fee is held by the municipal corporation in trust for the benefit of the public, has been likened to the exercise of the power of eminent domain. Accordingly, a gas company is bound te supply gas to premises with which its pipes are connected." Mr. Cook, in his work on Stock and Stockholders and Corporation Law, (section 674) says: "Gas companies, also, are somewhat public in their nature, and owe a duty to supply gas to all." . . . In the view of these authorities, we are constrained to hold that a natural gas company, occupying the streets of a town or city with its mains, owes it as a duty to furnish those who own or occupy the houses abutting on such street . . . such gas as they may require, and that, where it refuses or neglects to perform such duty, it may be compelled to do so by writ of mandamus.[58]

In similar manner, the duty to serve was extended to water suppliers.[59]

Thus, by the beginning of the twentieth century, most courts recognized a public utility duty to serve, even with no statutory authorization. For example, the Indiana Supreme Court ordered a gas company to allow a prospective customer to interconnect with its gas lines, despite the utility's allegation that it lacked adequate supply to meet existing customers. Writing for the court, Justice Hadley wrote:

> The principle here announced is not new. It is as old as the common law itself. It has arisen in a multitude of cases affecting railroad, navigation, telegraph, telephone, water, gas, and other like companies, and has been many times discussed and decided by the courts; and no statute has ever been deemed necessary to aid the courts in holding that when a person or company has undertaken to supply a demand which is affected with a public interest, it must supply all alike who are like situated, and not discriminate in favor of nor against any.[60]

State courts were not the only institutions to embrace a duty to serve during the Gilded Age. In 1886, Chief Justice Morrison Waite presented his majority opinion in the appeal to the U.S. Supreme Court of three cases known collectively as the *Express Cases*. The

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58. Portland Natural Gas & Oil Co. v. State *ex rel.* Keen, 34 N.E. 818, 818-19 (Ind. 1893).

59. *See, e.g.*, City of Danville v. Danville Water Co., 53 N.E. 118, 122 (Ill. 1899) ("It is well settled that parties who carry on a business which is public in its nature, or which is impressed with a public interest, must serve all who apply on equal terms and at reasonable rates.").

60. State *ex rel.* Wood v. Consumers' Gas Trust Co., 61 N.E. 674, 677 (Ind. 1901) (citations omitted).

Express Cases were "each brought by an express company against a railway company to restrain the railway company from interfering with or disturbing in any manner the facilities theretofore afforded the express company for doing its business on the railway of the railroad company."[61] The Court rejected the argument that equality in service was required, but did concede that the public is entitled to reasonable service.[62] Although the decision was widely perceived to be a pro-railroad case, the duty of service had been endorsed by the United States Supreme Court.

At the same time, though, by the late nineteenth century a movement to commence federal regulation of railroads by statute had begun. In the railroad context, the common law approach to enforcing the duty to serve, like any common law enforcement mechanism, had a number of drawbacks. Litigation was extremely costly. Many feared retaliation for bringing a lawsuit against a railroad. Railroads settled many cases, avoiding judicial determinations on the most controversial and difficult issues. And courts, accustomed to deciding the legality of the rates in individual cases, were simply not institutionally outfitted to enforce the general rule of reasonableness in rates. Statutory responses began in the states, but by the 1880s it was apparent that state legislation was a partial answer at best. The dramatic shift from common law supervision to regulation culminated with the passage in 1887 of the Interstate Commerce Act, which embodied service obligations for railroads.[63] By the time that the federal government adopted the Interstate Commerce Act,[64] states had begun adopting their own regulatory programs for public utilities.[65]

2. The Growth of the Regulatory Commission

A centerpiece of early state regulation of utilities outside of courts was the utility franchise, a monopoly charter typically granted by local government.[66] This was essentially a fictional contract, or

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61. The Express Cases, 117 U.S. 1, 2 (1886).

62. *See id.* at 28 (rejecting railroad duty to the public, but noting that the case would be different if the public "were complaining because the railroad companies refused to carry express matter themselves on their passenger trains, or to allow it to be carried by others").

63. Interstate Commerce Act, ch. 104, 24 Stat. 379 (1887) (codified as amended at 49 U.S.C. §§ 10101-11908 (1994)). The structure of the Interstate Commerce Act would be replicated in federal approaches to regulating natural gas in the Natural Gas Act and electricity in Part II of the Federal Power Act in the 1930s.

64. *Id.*

65. *See* M.H. Hunter, *The Early Regulation of Pubic Service Corporations*, 7 AM. ECON. REV. 569, 580 (1917) (observing that utility regulation existed in some states as early as 1820).

66. *See id.*

"regulatory compact," that determined the respective rights and duties (sometimes referred to as "incumbent burdens") of the utility.[67] After a number of years, this local system was abandoned for statewide legislative approaches because of a perception of corruption. New York and Wisconsin were the first states to establish regulatory commissions, and their commissions soon became models for other states.[68]

Most of the early statutes defining the jurisdiction of regulatory commissions were vague. A common approach was for a statute to require that telephonic, gas, or electric service be adequate and rates be reasonable.[69] Many courts and commentators have opined that these statutes set forth the extant common law. A United States District Court in Oregon stated in 1953:

> The suggestion that these obligations have been abrogated or essentially modified by statute law or policy is unthinkable .... Congress has acted upon this assumption of an ascertainable body of common law .... The original Interstate Commerce Act and its subsequent amendments and addenda are unintelligible unless viewed in the bright daylight of this customary law....
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> The Congress has never shown a disposition to destroy these original remedies or to repudiate the common law of the respective states relating to carriers. The common law remedies for breach of the obligations thereof were preserved by positive mandato, and the statutory remedial devices were made additions thereto.[70]

Several state commissions adopted a similar approach, viewing statutory obligations as codifications of the common law. Sometimes the statutory or regulatory obligations went beyond the common law, and led to some expansion. Judges thus worked with agencies in developing new meanings and applications for the duty to serve, particularly in the context of electric utility regulation, although in many respects commissioners and legislators had more power in defining the particulars of modern utility obligations.

In the twentieth century, the public utility duty to serve evolved into two distinct obligations, which today appear in the regulations, statutes, and case law governing privately-owned public utili-

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67. *See Deregulatory Takings*, *supra* note 3, at 858 (describing incumbent burdens).

68. *See* Hunter, *supra* note 65, at 569.

69. *See* Werner Troesken, *The Institutional Antecedents of State Utility Regulation: The Chicago Gas Industry, 1860 to 1913*, *in* THE REGULATED ECONOMY: A HISTORICAL APPROACH TO POLITICAL ECONOMY 55, 66-68 (Claudia Goldin & Gary D. Libecap eds., 1994) (discussing the effects of the gas acts).

70. Montgomery Ward & Co. v. Northern Pac. Terminal Co., 128 F. Supp. 475, 494, 496 (D. Or. 1953).

ties:[71] obligations regarding the extension of services and abandonment of service requirements. The extension duty requires public utilities to build facilities at least to a property line and to provide adequate pressure or power to transport service to the customer, even if the customer could not pay for the cost of extending service. Abandonment obligations include procedures governing service disconnection, and obligations to notify customers prior to shut-off and to continue with service provision even if a customer cannot pay in full.

a. Service Extension

Nearly seventy years ago, Bruce Wyman commented on the limits of the common law extension obligation:

> One thing is as certain as anything can be at common law in this doubtful subject, and that is that those who have provided certain facilities in order to give a designated service are under no obligation to go beyond the service they have professed and substantially extend their existing facilities so as to make physical connection with another service.[72]

Yet, Wyman noted, statutes in the late nineteenth and early twentieth century began to require utility extension of service beyond the common law.[73]

Although the states differ in the details, the basic modern rule for the extension of service generally accepted by all fifty states is that a utility can be required by a regulatory authority to make all

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71. The analysis in this Article focuses primarily on the application of the duty to serve to public utilities which are not owned by governmental bodies, as this is the important issue regulators will face in the near future. Privately owned public utilities supply nearly 80 percent of the power supplied today in the United States. *See* PETER FOX-PENNER, ELECTRIC UTILITY RESTRUCTURING: A GUIDE TO THE COMPETITIVE ERA 129 (1997). Moreover, with deregulation, it is expected that the number of private suppliers of electricity will grow, due to enhanced incentives for entering power supply markets and a movement away from public ownership of power generation.

In *Jackson v. Metropolitan Edison Co.*, 419 U.S. 345, 358-59 (1974), the Supreme Court held that state action is not present if a utility is privately owned, despite regulation of utilities and the grant of a monopoly franchise by the state. Thus, the Fourteenth Amendment of the United States Constitution does not directly restrict the service decisions of most electric utilities, although there may be an opportunity te apply constitutional doctrines to service decisions where a governmental body has ordered no extension or has compelled service termination. *See* Iowa Citizen/Labor Energy Coalition v. Iowa State Commerce Comm'n, 335 N.W.2d 178, 183 (Iowa 1983) (stating that shut-offs by investor-owned utilities do not constitute state action, because service shut-off was not ordered by state regulators, even though regulators considered, acquiesced in, and encouraged shut-off).

72. Bruce Wyman, *The Obligations of Public Services to Make Connections*, 22 HARV. L. REV. 564, 571 (1909) [hereinafter *Make Connections*].

73. *See id.* at 577 (noting that "statutes are going further than to make the common law more intensive; they are making the legal obligation more extensive").

reasonable additions within the area to which it has dedicated its services, but that no extensions can be mandated outside of that area. "Reasonable" extensions are those for which the economic cost to provide service is not disproportionate to the overall expected return to the utility in accomodating the new customer. Because in most jurisdictions regulatory agencies make decisions to require extension of service pursuant to statutes or regulations, modern courts are unlikely to require extension of service over the denial of the regulatory agency absent an abuse of discretion or action that is otherwise arbitrary and capricious.[74]

The United States Supreme Court acknowledged the extension component of the duty to serve in 1917 in *New York ex rel. New York & Queens Gas Co. v. McCall*.[75] The New York Public Service Commission had ordered a local gas utility with an exclusive franchise to extend its gas mains and pipes to Douglaston, a community "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 of Queens."[76] Although the extension was seen as an opportunity to enhance the utility's customer base,[77] the gas utility was reluctant to agree to this extension because "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."[78] The utility estimated its return on the eight mile extension of its mains at only two and one quarter percent, which was likely well below the cost of capital at the time. Nevertheless, the Court rejected the utility's due process argument against the Commission's order, stating:

> 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 that 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 impor-

74. *See infra* note 96 and accompanying text.

75. 245 U.S. 345, 351 (1917) (stating further that sometimes commissions or courts may allow extension with *ex ante* contribution by the requester for disproportionate extensions).

76. *Id.* at 346.

77. At the time, Douglasten was an affluent and growing community of 330 homes, the number of which had doubled within a few years. *See id.* at 349.

78. *Id.* at 349-50.

> tant purposes for which these administrative commissions, with large powers, were called into existence . . . .[79]

McCall, by accepting the political process of commission regulation of service extension, implicitly endorsed cross-subsidies to finance extension when the anticipated revenues from new customers are below the costs of extension to serve those customers.[80]

A 1915 case spelled out the basic obligation that applies to modern utility extension requests. In *Lukrawka v. Spring Valley Water Co.*, the California Supreme Court, ordering a private utility with a franchise to provide water to the residents of San Francisco to extend its mains to a recently settled area of the city, noted:

> The proper discharge of this public duty required not only that the company should provide a supply of water and establish a system for its distribution to meet the reasonable needs of the municipal community as it then existed, but it was under the obligation to keep in view the prospective and probable increase in population of the municipality and the necessarily increasing demand for a water supply which would be consequent therefrom; to anticipate the natural growth of the municipality it had undertaken to serve as a whole and to take reasonable measures to have under its control a sufficient supply of water and make gradual extensions of its distributive system to meet the reasonable demands for water by the growing community.[81]

Several factors were articulated by the *Lukrawka* court as providing guidance for future determinations of the reasonableness of compelled extension: the company's duty, the adequacy of water supply for distribution, the adequacy of facilities burdened by extension, the rights of existing customers, the necessity of the company to supply the extension, and the effect of extension on existing customers.[82] The court found that the water company had enough of a supply of water

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79. *Id.* at 351.

80. Some, such as Sidak and Spulber, over-read *McCall* as expressing a required duty to serve and guaranteeing utility cost recovery of this obligation through rates. *See Deregulatory Takings*, *supra* note 3, at 913 ("[t]he *McCall* rule thus guarantoes the existence of a cross-subsidy in the utility's late structure"). However, McCall provides very weak support for mandatory cost recovery of customer service obligations. More accurately, the case suggests that the state commission and its political process is the best forum for evaluating the appropriateness and scope of the duty to serve and how to pay for it. *See generally McCall*, 245 U.S. at 351 (noting the importance of the commission process to resolving the nature and financing of service obligations).

81. Lukrawka v. Spring Valley Water Co., 146 P. 640, 645-46 (Cal. 1915). The decision has since been cited and followed in other jurisdictions. *See, e.g.*, Cedar Island Improvement Assoc. v. Clinton Elec. Light & Power Corp., 114 A.2d 535, 541 (Conn. 1955); Reid Dev. Corp. v. Township of Parsippany-Troy Hills, 89 A.2d 667, 670 (N.J. 1952); Crownhill Homes, Inc., v. City of San Antonio, 433 S.W.2d 448, 478 (Tex. App. 1968); State v. Renick, 116 S.E.2d 763, 770 (W. Va. 1960).

82. *See Lukrawka*, 146 P. at 643.

so that service could be extended to the new community without affecting water supply to current customers.[83] Thus, the court concluded, by accepting a franchise and undertaking the power of eminent domain, the utility had accepted a duty to serve that entailed the extension of service.[84]

This obligation to extend service, however, is not totally unqualified, even under modern statutes and regulations. An isolated individual cannot compel an uneconomical addition to an area with a very low demand for service.[85] Despite this, a recent New York court decision required service extension to a single landowner because additional customers were anticipated and the request for extension could reasonably be accommodated without hindering service to other customers.[86] Likewise, the Kentucky Court of Appeals affirmed a trial court decision that required water extension to three customers who were located only 500 feet from a water main distribution line without requiring ex ante contribution from the customers.[87]

Utility extension cases tend to focus on the financial burden of extension,[88] but most cases preclude a utility from refusing to extend service simply because it is not profitable.[89] In fact, the main distin-

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83. *See id.* at 646.

84. *See id.* at 642. In Interstate Commerce Comm'n v. Oregon-Washington R.R. & Navigation Co., 288 U.S. 14, 34 (1933), the United States Supreme Court recognized this obligation by finding tbat the Commission charged with making a decision could compel service extension of a railroad provided that public convenience and necessity required the extension and the extension did not impair a carrier's obligation to continue to provide adequate and reasonable service on its existing routes. However, the Court refused to require the carrier to extend service beyond the geographic area it had undertaken to serve. *See id.* at 37, 40.

85. *See Lukrawka*, 146 P. at 646 (stating that a public duty will arise only "when there is a reasonable demand for it and a reasonable extension of the service can be made to meet the demand"); *see also* Colonial Prod. Co. v. Pennsylvania Pub. Util. Comm'n, 146 A.2d 657, 663 (Pa. Super. Ct. 1958) (stating that the court would not subject a utility to unreasonable expenditures because of the extraordinary demands of one customer).

86. *See* Peschel v. Village of Monroe, 641 N.Y.S.2d 89, 90 (N.Y. 1996) (finding denial of application for extension arbitrary and capricious).

87. *See* Johnson v. Reasor, 392 S.W.2d 54, 56 (Ky. Ct. App. 1965) (stating that there is "a basic underlying obligation of a city owning a general domestic utility system te supply impartially all applicants who are in substantially like position to those being served").

88. *See* Jordan v. Clarke-Washington Elec. Membership Corp., 80 So. 2d 527, 529 (Ala. 1955) (defining "reasonableness" as depending on the need and cost of the extension, return on revenue, financial position of the utility, public advantage from extension, and any contractual obligation on the part of the utility te make the extension); *see also* Mongiello v. Borough of Hightstewn, 112 A.2d 241, 243 (N.J. 1955) (noting that a municipality may deny a service extension request where tlie "cost to the community would be grossly disproportionate te the individual needs presented").

89. *See* New York *ex rel.* New York & Queens Gas Co. v. McCall, 245 U.S. 345, 351 (1917) (suggesting a utility cannot "pick and choose" its customers based on profitability considerations); Board of Fire Comm'rs v. Elizabethtewn Water Co., 142 A.2d 85, 90 (N.J. 1958) (stating that the utility cannot "pick and choose its customers solely on the basis of pecuniary advantage

guishing feature of the utility duty to extend service that does not apply to an ordinary, unregulated business is that service extension may be compelled even where it is not profitable to the utility in the short term. For example, a New Jersey extension case addressed statutory language that required "sufficient business to justify the construction and maintenance," with extension costs to be borne by the utility.[90] The cost to the water district of completing the extension was estimated at $34,570, but the immediate annual revenue from the thirty-six new customers, if the extension were made, was estimated at $1600.[91] The court found that the comparison between extension cost and annual revenue would have "no material effect on [the utility's] financial condition"[92] and required construction and maintenance of the extension with no *ex ante* contribution from the new customers.[93]

Of course, with *ex ante* contribution from the applicant requesting service, the financial portions of the reasonableness test can be met. Generally, "where . . . improvements desired are primarily for the benefit and convenience of one customer . . . the attitude of the particular customer relative to participating in the cost of construction" may be considered.[94] Alternatively, if there is evidence that total revenue from an extension will not produce a fair and reasonable return, extension may still be required if a general increase in customer rates can adequately compensate the utility for its expenditure without harming existing customers.[95] However, extension may still be refused if there is an adverse effect on existing customers or if the applicant is requesting service beyond the utility's franchise territory.

Because in most modern jurisdictions the service extension obligation is enforced by a regulatory commission, courts considering service extension cases often defer to agency decisions unless the agency abuses its discretion or the agency's action is arbitrary and capricious.[96] But, because regulatory commission decisions are often

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and refuse to supply those who constitute an integral part of the locality simply because, considered in isolation, their consumption of the product will not produce a profit").

90. N.J. STAT. ANN § 48:2-27, *discussed in Board of Fire Comm'rs*, 142 A.2d at 89.

91. *See Board of Fire Comm'rs*, 142 A.2d at 88.

92. *Id.* at 89.

93. *See id.* at 93.

94. Colonial Prods. Co. v. Pennsylvania Pub. Util. Comm'n, 146 A.2d 657, 662-63 (Pa. Super. Ct. 1958).

95. *See* Lakewood Township v. Lakewood Water Co., 102 A.2d 671, 677 (N.J. Super. Ct. App. Div. 1954) (stating that immediate profit is not necessary to justify order of extension).

96. *See* Reid Dev. Corp. v. Township of Parsippany-Troy Hills, 89 A.2d 667, 669 (N.J. 1952) (reversing commission refusal to extend service for abuse of discretion); Rose v. Plymouth Town, 173 P.2d 285, 287 (Utah 1946) (upholding decision of town board not to compel a water

appealed immediately to the high court of the state, rather than to a trial or mid-level appellate court, even these cases are rare. Moreover, in many instances, the doctrine of primary jurisdiction works to keep modern service extension disputes out of court.[97] Nevertheless, the principles behind the extension duty lie dormant in the case law and have been invoked to compel the extension of service even though modern statutes and regulations impose a more extensive obligation than the common law.[98]

b. Service Continuation

Like many other duties in law,[99] the duty to serve encompasses both positive and negative obligations. The positive obligation requires, if reasonable, affirmative actions to extend a utility's service to customers within its franchise area. Related to the duty to extend service is its opposite: an obligation to continue with existing service once it has commenced, or negative restrictions on the abandonment or termination of service.

Early in the development of regulation of the telephone, natural gas, and electricity industries, precedents, primarily from railroad cases, were used to enforce standards of reasonableness in the event of a utility abandonment or cut-off of all or part of its service. In 1878, the Nebraska Supreme Court refused to allow a railroad to abandon service to a small town, stating:

> The fact that the operation of the road is unprofitable furnishes no excuse whatever for the failure to comply with the conditions of the grant [of a franchise to run the railroad through a certain town], and the state may

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main extension where the board used its discretion to decide that a lengthy extension was unreasonable).

97. *See, e.g.*, DiSanto v. Dauphin Consol. Water Supply Co., 436 A.2d 197, 200 (Pa. Super. Ct. 1981) (noting that regulatory commission has primary jurisdiction over extension request where requester has an adequate remedy before the Public Utility Commission).

98. *See* Messer v. Southern Airways Sales Co., 17 So.2d 679, 681 (Ala. 1944) (stating that a duty to serve exists independent of statutos governing public utilities); Foltz v. City of Indianapolis, 130 N.E.2d 650, 656-57 (Ind. 1955) (finding that an obligation to extend service applied to businesses "affectod with a public interest" independent of statutes or regulations); Rasp v. Hidden Valley Lake, Inc., 519 N.E.2d 153, 156 (Ind. App. 1988) (noting that a private developer may be impressed with a "public interest" to install water and sewer lines in subdivisions because of the common law duty for a business with a public interest to serve all who apply "so long as facilities are available without discrimination").

99. *See generally* Saul Levmore, *Waiting for Rescue: An Essay on the Evolution and Incentive Structure of the Law of Affirmative Obligations*, 72 VA. L. REV. 879 (1986) (discussing tort liability for omissions and commissions).

> compel a compliance with the terms of the contract by mandamus or other appropriate remedy.[100]

The basic test developed by courts required continuing service so long as the utility earned an adequate return on investment. According to the Pennsylvania Public Service Commission:

> It is a general policy of the Commission to require a public service company to continue a portion of its service even when that portion is operated at a loss, where public necessity for such continuance exists, and the loss sustained from the operation will not jeopardize or place an undue burden upon the general service rendered by the public service company.[101]

Courts ruled that the standards for abandonment were essentially the same for both publicly and privately owned utilities.[102]

Modern regulatory commissions and courts distinguish between abandonment—permanent suspension of service to customer—and shut-off—temporary discontinuation of service. When a utility seeks to abandon service, it is first required to obtain the permission of the regulatory authority, which will generally grant permission to abandon if the utility can show it no longer has a franchise to serve, public demand is minimal, a shortage of supplies exists, operation is at a substantial economic loss, or customers have failed to meet necessary conditions for receiving service.[103]

In contrast to abandonment, which generally applies to a utility's surrender of its franchise with respect to a group of similarly located customers, such as a township or development,[104] shut-off

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100. State v. Sioux City & Pac. R.R., 7 Neb. 357, 374 (1878); *see also* DeCamp Bus Lines v. Dep't of Transp., 440 A.2d 32, 34 (N.J. Sup. Ct. 1981) ("there is authority to support the power of the State to require a utility to continue to provide services, even unprofitably, upon a finding of public necessity.").

101. Public Service Comm'n v. Delaware & Hudson R.R., 14 P.U.R. 326, 331 (Pa. Pub. Serv. Comm'n 1936). The Uniform Commercial Code ("U.C.C.") provides an interesting analogy. Under section 2-615 of the U.C.C., outlining the basic excuse of commercial impracticability, the burden of proof of claiming impracticability lies with the seller and an increase in cost alone, even if astronomical, is not enough to excuse performance. U.C.C. § 2-615 cmt. 4 (1995) ("[i]ncreased cost alone does not excuse performance"). Nonperformance of requirements contracts "merely to curtail losses" may constitute breach. U.C.C. § 2-306 cmt. 2 (1995).

102. *See* Yezioro v. North Fayette County Mun. Auth., 164 A.2d 129, 137 (Pa. Super. Ct. 1960) (holding that a private water authority's abandonment of service was an abuse of discretion).

103. *See In re* Atlanta Power Co., 65 P.U.R.3d 269, 271 (Idaho Pub. Util. Comm'n 1966) (allowing an electric company to discontinue its service because it was an isolated company operating at a loss); *In re* Valley Mercantile Corp., 6 P.U.R. 32, 34 (Mont. Pub. Serv. Comm'n 1934) (recognizing the right of the operator of a public utility heating plant to withdraw from public service).

104. Abandonment, however, may apply to a utility's action vis-à-vis a single customer with idiosyncratic location or service demands.

typically refers to a utility's action vis-à-vis a single customer. Temporary service shut-off is only required to be accompanied by notice when interruptions have been planned, the particular customers' needs are known, and notice is possible.[105] Permanent service shut-off generally requires actual notice. Of course, if a utility has a specific curtailment plan that provides for more restrictions on service cut off, or if representations were made to a customer by a sales representative, a utility may have an obligation to give actual notice.[106]

In addition to notice requirements, the continuation obligation of the duty to serve precludes a utility from disconnecting service for a disputed bill pending resolution of the dispute, because of some collateral matter unrelated to service, because of some third party debt, to collect a mistaken undercharge, or as a mechanism to assist in debt collection.[107] Many states also have in place winter moratoria[108] or

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105. *See* Langley v. Pacific Gas & Elec. Co., 262 P.2d 846, 850 (Cal. 1953) (stating that where a utility knew of a customer's dependence on electricity to operate his fish hatchery and had assured customer of prompt notification of all interruptions, its failure to telephone the customer with notice of known interruption made it liable for injuries caused by the delay); National Food Stores, Inc. v. Union Elec. Co., 494 S.W.2d 379, 383 (Mo. Ct. App. 1973) (holding that a utility must give reasonable advance notice of anticipated service shut-off because of excessive heat during summer to protect customers from foreseeable loss or harm); Valley Util. Co., 73 P.U.R.3d 41, 45 (Ohio Pub. Util. Comm'n 1968) (finding rule that permits water company to shut off service "for any purpose at any time" is unreasonable unless it requires that notice be given to all customers of particular shutoffs); Rohrbaugh v. Pennsylvania Pub. Util. Comm'n, 663 A.2d 809, 812 (Pa. Commw. Ct. 1995) (stating that a utility must give notice of shutoff to a landlord prior to disconnecting electricity at the request of a tenant during period of subzero temperatures in which inadequato heat could cause property damage). *But see* Stroup v. Alabama Power Co., 113 So. 18, 20 (Ala. 1927) (dismissing a negligence action by customer whose wife was having an operation in her home at 2:00 a.m. when the electricity was intentionally shut off to make necessary repairs); Brame v. Light, Heat & Water Co., 48 So. 728, 729 (Miss. 1909) (dismissing a tort action against a water utility where the utility did not have knowledge of the customer's type of equipment, and damage from the shutoff was unforeseeable). Gas utilities are consistently required to notify all customers of planned or unavoidable interruptions because the utility is imputed knowledge of the dangerous nature of gas and the hazardous consequences of irregular service. *See* Beyer v. Consol. Gas Co., 60 N.Y. 628, 630 (1899) (stating that it was the duty of the gas company to use proper care to warn customers to protect themselves before they shut off service); Cramer v. Niagara Mohawk Power Corp., 257 N.Y.S.2d 380, 382 (Albany County Ct. 1965) (stating that it was the gas company's implied duty advise its custemers before it cut off their gas).

106. Notice obligations for shut-off also have an analogy in the U.C.C. Where a buyer and seller have a contract and the seller is claiming commercial impracticability as a grounds for excusing (or changing the torms of) performance, in order to prevent this from constituting breach the seller must "notify the buyer seasonably" that there will be delay or non-delivery. U.C.C. § 2-615(c).

107. *See* SAUNDERS ET AL., *supra* note 19, at 123-41.

108. *See, e.g.*, CONN. GEN. STAT. § 16-262c(b) (1958) (precluding electric and gas utilities from terminating service in hardship cases from November 1 to April 15); IDAHO ADMIN. CODE 31.21.01.306 (1997) (precluding service termination from December through February to any residential customer who is unable to pay and whose household includes children, elderly, or infirm persons). Iowa's regulations preclude disconnection from November 1 through April 1 for residents who are eligible for low-income energy assistance or weatherization programs. *See*

prohibitions on termination during "extreme weather."[109] And the duty to serve often requires utilities to continue to provide service even when a customer has not fully paid its bills. A recent National Regulatory Research Institute survey reports that thirty-two of forty states surveyed allow a customer to continue to receive utility service without full payment so long as some partial payment is made on the customer's bill.[110] However, absent some other prohibition on termination, utilities generally may disconnect service in the case of a nonpaying customer to help to avoid future losses.

As with the extension obligations, in most states utility obligations regarding service continuation are reinforced by statutes and/or regulations.[111] Nevertheless, the common law principles lay dormant in judicial decisions, especially those involving interpretation of contracts or tort claims.[112]

C. The Efficiency of the "Duty to Serve" in the Era of Public Utility Regulation

The duty to serve applicable to utilities encompasses distinct obligations, among them requirements to extend service and restrictions on service abandonment or shut-off. In many jurisdictions utility governing entities enforce the modern duty to serve, but the duty to serve is richly steeped in the common law and many of its judicial remnants survive. Although today the common law doctrine has

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IOWA ADMIN. CODE r. 199-19.4(17) (1997). For discussion of the practical impact of these, see Cam Simpson, *Thousands Without Heat in Area*, CHI. SUN-TIMES, Dec. 9, 1997, at 1 (noting that because debts build throughout the winter, allowing utility companies to disconnect in spring, the situation remains through the next wintor).

109. *See, e.g.*, TEX. ADMIN. CODE § 23.46(j) (West 1998) (precluding disconnection unless the utility ascertains that no life-threatening condition exists because of "severe weather conditions").

110. *See* BURNS ET AL., *supra* noto 19, at 27. For reasons discussed in Part II.C, in some states this is not required by law or regulation, but may be provided voluntarily by utilities with the expectation of recovery in rates.

111. *See, e.g.*, FLA. ADMIN. CODE ANN. r. 25-6.044(3-4) (1998) (requiring electric utilities to make "all reasonable efforts" to prevent interruptions, requiring temporary service interruption for prolonged periods to be preceded by notice "whenever practicable to affected customers," and requiring attempts to restore service "within the shortest time practicable consistent with safety"); FLA. ADMIN. CODE ANN. r. 25-6.105(5) (allowing an electric utility to refuse or discontinue service with notice for noncompliance with law, defective wiring, refusal to provide space for metering, failure to provide deposit, or nonpayment of bills).

112. Further private law remedies also have applied to public utilities in contract and tort, particularly with respect to service discontinuation. However, for purposes of this Article, discussion is limited to the duty to serve, in contrast to the duty to use care in providing service. *See generally FCC Origins of the Duty to Serve*, *supra* note 4, at 534 (contrasting the duty to serve to cases addressing tort liability); Arterburn, *supra* note 29 (distinguishing between the "duty to use care" and the "duty to serve").

taken a back seat to the politics of the legislative process and commission regulation, the legal principles behind the duty to serve lie dormant in the case law and continue to be invoked by courts from time to time.

While there are strong fairness or distributional arguments supporting a duty to serve, in the modern era of public utility regulation—beginning with the Gilded Age and lasting through the present—economic efficiency rationales provide an intellectual framework to support the extraordinary obligations that apply to providers of utility services. One rationale proffered for universal service obligations in the telecommunications industry is that universal service enhances the value of service by creating network-system benefits for all customers. Applied to natural gas and electric utilities, however, this rationale is tenuous. Under a contractual or "regulatory compact" approach to regulating utility franchises and prices, the constituent obligations of the duty to serve may be economically efficient pursuant to a Williamsonian transaction cost economic analysis,[113] although regulators have been required to oversee this compact to minimize the impacts of cross-subsidization.

1. Limitations of the Positive Externality Justification for Service Obligations in the Natural Gas and Electric Utility Industries

In the telecommunications context, the predominant economic rationale for a universal service obligation is that pervasive access increases network-system benefits for customers. The basic idea is that a service obligation for 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 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

113. For a discussion of Williamsonian transaction cost analysis, *see infra* notes 130-34 and accompanying text.

> of the network per se. For example, all of us benefit from the widespread availability of basic public safety services, such as 911.[114]

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 that 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 is, the more valuable the Internet is as a communication tool.[115]

While intuitively attractive, this rationale is not without its problems. First, clearly there is 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, particularly those with whom middle-class customers rarely interact, might provide few benefits of the sort that the average middle-class customer will be willing to pay for. The average middle-class customer who can afford to pay for his or her 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, but clearly there is some limit on the average consumer's willingness to pay for network-system benefits. Without empirical study, this theory fails to provide a clear criterion for limiting its application. For example, taken to its extreme it could require not only subsidization of the network, but a redistributive tax to provide computers or other electronic devices to customers who cannot afford to pay for them.

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 rationale for enhancing access. However, with limited infrastructure, additional participants

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

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

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. For example, the congestion bottlenecks resulting from mass access to Internet system networks are obvious and have led high bandwidth users to seek alternative network solutions.

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 some cross-subsidization of universal service in telecommunications, it is a tenuous argument, at best, 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, does not depend on interconnectivity for its value. Additional customers might make certain secondary markets possible—Circuit City would not exist if customers did not have circuits[116]—and this may stimulate demand for electricity or natural gas. Moreover, as is discussed below, 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 sold by the traditional public utility—or, at least it demands some other economic explanation.

2. The Regulatory Compact Efficiency Argument

Another, more powerful, economic efficiency rationale for the duty to serve is embedded in an understanding of public utility regulation known as the "regulatory compact," coupled with the modern economic rationales for vertical and horizontal integration. The regulatory compact, a fictional contract between the utility and the state, views the utility as consensually agreeing to certain obligations, such as the duty to serve, in return for its geographic franchise and ex-

116. Thanks to my colleague Larry Garvin for putting it to me this way.

pected recovery of its costs of service through regulated rates. Some go so far as to suggest that this contract, though fictional, must be honored by the state as any other legal contract,[117] but the regulatory compact rationale is perhaps best understood as one account of the historical development of utility regulation. For example, George Priest describes utility regulation as evolving not primarily from regulatory capture, but from a pragmatic negotiation between utilities and local governments that gave utilities the power of eminent domain.[118]

Application of the regulatory compact as an intellectual grounding for utility service obligations finds support in Bruce Wyman's Gilded Age writings on public utility regulation. Wyman viewed extraordinary obligations as attaching to utilities by virtue of their monopoly status.[119] The regulatory compact rationale is most powerful when united with other economic justifications for public utility law, particularly rationales related to the law and economics of contract and the firm. Although a complete defense of the economics of vertical and horizontal integration and regulation of public utility rates is beyond the scope of this Article, some introduction is necessary to understand the efficiency of the traditional duty to serve in the regulated utility context.[120]

A firm is a natural monopoly if the entire market demand can be served at lower cost by a single firm than by two or more firms.[121] The traditional public utility, regarded by most as a natural monopoly, possesses a high degree of horizontal monopoly, due to economies

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117. *See, e.g.*, *Deregulatory Takings*, *supra* note 3. For the opposing view, see critical sources cited *supra* note 3.

118. *See* George L. Priest, *The Origins of Utility Regulation and the "Theories of Regulation" Debate*, 36 J.L. & ECON. 289, 303 (1993) ("utility companies voluntarily . . . subject[ed] themselves to regulation . . . to use public right-of-way").

119. *See Public Callings*, *supra* note 29, at 166.

120. The modern neoclassical theory of natural monopoly may have originated with John Stuart Mill, who argued that it would be uneconomical and duplicatively wasteful for cities te be connected to parallel railroad tracks, or for a city to be served by more than a single postal service. *See* 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 generally* 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.

121. *See* MARK SEIDENFELD, MICROECONOMIC PREDICATES TO LAW AND ECONOMICS 61-63 (1996) (describing how a stable market structure may create a natural monopoly); WILLIAM W. SHARKEY, THE THEORY OF NATURAL MONOPOLY 20 (1982) (same).

of scale or congestion or network economies, as well as a high degree of vertical integration of constituent services within a single firm.

For example, the modern, investor-owned electric utility was conceived in the nineteenth century in Chicago, by Samuel Insull, an associate of Thomas Edison.[122] By this time, economists such as Richard T. Ely and Henry Carter Adams had written that "monopolies result from economies of scale achieved by technological innovation."[123] Such was the origin of Insull's monopoly. Initially, large Chicago electricity users, such as apartment buildings, hotels, fancy shops, and department stores, generated power locally.[124] Eventually, Chicago Edison (Commonwealth Edison's predecessor), competing for increased service territory, realized that ownership of multiple generators within the same horizontal firm structure allowed significant coordination economies.[125] 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.

Integration of generation, transmission, and distribution functions within the same vertical firm allows significant operational economies.[126] In addressing the economic arguments for vertical integration, it is useful to consider electricity's technical characteristics. First, electricity transmission follows physical, not economic, relationships. Because electrons travel in the path of least resistance (according to Kirchhoff's laws),[127] the physical transmission of elec-

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

123. Hovenkamp, *supra* note 120, at 1270 (discussing economists' and histerians' views on monopolies); *see also* Richard T. Ely, *The Growth of Corporations*, 75 HARPER'S MAG. 71 (1887); Henry Carter Adams, *Relation of the State to Industrial Action*, PROC. AM. ECON. A., Jan. 1887, at 55.

124. *See* PLATT, *supra* note 122, at 22-25, 69-70.

125. *See id.* at 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. *See id*; *see also* THOMAS P. HUGHES, NETWORKS OF POWER: ELECTRIFICATION IN WESTERN SOCIETY, 1880-1930, at 122-25 (1983) (describing the relationship between horizontal intergration and universal access to electricity).

126. *See* PLATT, *supra* note 122, at 74 (noting that Insull's approach "represented a practical application of a novel economic and constitutional theory of 'natural' monopoly").

127. Kirchhoff's voltage law has been summarized as follows: "At each instant of time, the algebraic sum of the voltage rise is equal to the algebraic sum of the voltage drops, both being taken in the same direction around the closed loop." MCGRAW-HILL ENCYCLOPEDIA OF PHYSICS 649 (Sybil P. Parker ed., 2d ed. 1991). According to Kirchhoff's current law, "[a]t any given instant, the sum of the instantaneous values of all the currents flowing teward a point is equal to the sum of the instantaneous values of all the currents flowing away from the point." *Id.* at

tricity defies a predefined contract path linking particular buyers and sellers to physically identifiable products. Thus, analogies to highways, railroads, or pipelines can be misleading. Second, electricity cannot be feasibly stored. Although high-voltage cells are physically capable of storing large capacities of electricity, their cost is prohibitively high. It is also not feasible to simply let electricity travel through the grid until it finds a user, as kilowatts are quickly lost with every mile of transmission and the risk of overload (and accompanying blackout) is great. It is far more efficient to use electricity as it is produced, requiring tight coordination between power supply and demand. Third, the transmission of electricity is sensitive to the generation input acting upon the grid. For these reasons, electricity must be moved on a closely coordinated, integrated transmission system that displays large economies of scale.[128] Beginning with Insull's efforts, economies have historically been realized through the vertical integration of generation and transmission and the horizontal integration of multiple generators.

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.[129] The economist Oliver Williamson has generalized Coase's observation, presenting a useful framework for analyzing the costs of market contracting that affect the optimal degree of vertical and horizontal integration.[130] Williamson views the costs of market contracting as varying with uncertainty, the frequency of transactions, asset specificity,[131] and problems caused by opportunism.[132] Transactions exhibit-

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650; *see also* George C. Loehr, *Transmission Reliability in the "Brave New World,"* PUB. UTIL. FORT., Feb. 1, 1996, at 12, 13.

128. We should be careful, though, not to exaggerato the economic relevance of these technical characteristics. The differences between electricity and other commodities are only differences in degree. For instance, other industries face physical constraints on transportation (e.g., railroads) and other commodities are difficult and costly to store (e.g., natural gas). Firms in the electricity industry, like firms in other industries, have found ways to economize on the costly technical characteristics of electricity.

129. There is, in principle, no need for the market to organize around firms. Instoad, market actors could organize through arms-length transactions with the guidance of price mechanisms. A firm simply bypasses (or internalizes) the systom 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 tochnology and its costs and could be taken as given.

130. *See generally* OLIVER E. WILLIAMSON, THE MECHANISMS OF GOVERNANCE (1996) [hereinafter MECHANISMS]; Oliver E. Williamson, *Transaction-Cost Economics: The Governance of Contractual Relations*, 22 J.L. & ECON. 233 (1979).

131. Asset specificity is the extent to which durable assets are tailored to specific transactions. *See* MECHANISMS, *supra* note 130, at 59-60. For example, if an electric utility has built a

ing these characteristics require complex contracts and tend to favor integration within organizations.[133] As the need for contractual complexity rises, so does the cost of bilateral contracting, making internal control more attractive.[134]

This, the Williamsonian framework, provides a powerful explanation for the high degree of vertical integration in the twentieth century electric utility industry. In the electricity industry, significant operational efficiencies have been realized by the vertical integration of generation and transmission within a single monopoly-franchised firm. The vertical integration of generation and transmission is the market's recognition of two technical phenomena that make de-integration costly: first, "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 second, 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.[135] This high degree of vertical integration in the industry minimizes the costs of contracting by internalizing costs, many of which are informational,[136] within a single firm.

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power generator to serve a single large customer within its service territory, there may be a large degree of specificity with respect to that asset unless that utility is able to access an alternative purchase market for the output of the asset.

132. *See id.* at 65-78.

133. *See id.* at 103-05.

134. *See id.*

135. 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. *See* PAUL L. JOSKOW & RICHARD SCHMALENSEE, MARKETS FOR POWER: AN ANALYSIS OF ELECTRIOAL UTILITY DEREGULATION 113 (1983) (observing that "[v]ertical integration between generation and transmission is virtually universal").

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

In addition to fostering vertical integration of the electrical utility, Samuel Insull recognized that significant economies could also be realized from the horizontal integration of electrical generation and transmission. Much of this is internal to the firm. Originally, it was difficult to achieve high degrees of horizontal integration because power systems could not be coordinated. However, with technological innovations, the central station—a coordinated intersection of various distribution wires—became feasible for integrating adjacent electricity transmission systems.[137]

These economic rationales favor a high degree 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, though, 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.[138] 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. In a competitive market, price equals long-run marginal economic cost, including a normal rate of return on capital.[139] In contrast, though, a monopolist can increase its profits by

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137. *See* PLATT, *supra* note 122, at 72-74. In addition, a large degree of horizontal integration has been externally established through informal coordination and contractual pooling. "Power pools"—formal and informal agreements among independent utilities to coordinate their investment and operating activities—also provide certain economies for the industry. "Electrical equilibrium" between adjacent systems can only be achieved through the operational coordination pooling provides. Moreover, the efficient operation of power generation requires adjacent systems te engage in "economy interchanges," the alteration of generation levels to equato line-loss adjusted marginal cost (operationally known as "system lambda"). The pooling of separately owned vertically-integrated generation and transmission resources facilitates such economy interchange. Thus, 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. *See* JOSKOW & SCHMALENSEE, *supra* note 135, at 26. The economists Paul Joskow and Richard Schmalensee, perhaps the leading U.S. commentators on the economic structure of the electric utility industry, have observed that as of 1979 formal power pools, governed by inter-utility contracts, accounted for nearly 60 percent of U.S. generating capacity. Informal cooperative pools between utilities also exist in certain geographic areas. *See id.* at 66-77. As Joskow and Schmalensee note, power pooling is a substitute for vertical integration. See *id.* at 71. In addition te power pools, federal regulators have established nine regional reliability councils that facilitate information exchange within their interconnected member systems and establish reliability criteria for system interconnections and power supply. Together, these nine regional groups form the North American Electricity Reliability Council ("NERC"), whose members include utilities, public authorities, and representatives of the federal government.

138. *See* CHARLES F. PHILLIPS, JR., THE REGULATION OF PUBLIC UTILITIES: THEORY AND PRACTICE 563-64 (3d ed. 1993).

139. Marginal cost includes both the cost of delivering power and what regulaters call a "capacity charge"—tbe cost of maintaining reserve capacity to ensure reliable supply.

charging prices that exceed marginal cost. Because marginal cost is difficult to measure directly, regulators approximate marginal cost by computing the utility's invested capital ("rate base"), determining an allowable rate of return on that invested capital, and setting rates designed to produce the prescribed rate of return on capital.[140]

Under this traditional regulatory structure, the duty to extend service, even when it is not immediately profitable, has some basis in economic efficiency. 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, though, customers must be guaranteed access to power supply and distribution services if they request it, as 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 regulators' approach to preserving this structure through franchise and price regulation. As Richard Epstein has suggested, "[t]he obligation of universal service to all comers is the obvious and effective way to overcome the holdout advantage that common carriers would otherwise possess as against their customers."[141] 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.[142] Effectively, service extension obligations are imposed on the utility, rather than assumed by the consumer, because the utility is in a better position to spread the costs of extension among multiple customers, thus minimizing the wealth impact on poorer customers, whose marginal utility of money is relatively high.[143]

Cost spreading is a primary rationale behind the extension obligation applicable to utilities. In contrast, service continuation obligations are best understood by analogizing to long-term bilateral contracts between a supplier and a buyer and the identification of the

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140. *See* PHILLIPS, *supra* note 138, at 62-63, 176-80.

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

142. *See id.* ("[t]hose who want its services must pay fair value for them").

143. On the economic basis of loss (or cost) spreading, see generally GUIDO CALABRESI, THE COSTS OF ACCIDENTS (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.

superior risk-bearer.[144] In industries with large up-front capital investments, long-term contracts are necessary to entice suppliers to make the necessary investments. Without long-term contracts guaranteeing a reliable pool of buyers of a good, many suppliers would not make the necessary capital investments to produce the good or distribute the good over the market. For example, in the natural gas industry, long-term contracts between pipelines and local distribution companies were essential to financing the national pipeline infrastructure.[145]

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 durations of such contracts pose problems for planning risk management, and "gaps" 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.[146] 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 price per ton 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.[147] In other words, in the long-term contract context, some courts have enforced a service continuation obligation, even in the face of substantial economic losses to the seller.[148]

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144. The analogy is made in Victor P. Goldberg, *Regulation and Administered Contracts*, 7 BELL J. ECON. 426, 444 (1976). *See generally* Oliver E. Williamson, *Franchise Bidding for Natural Monopolies—In General and with Respect to CATV*, 7 BELL J. ECON. 73 (1976).

145. *See* Richard J. Pierce, Jr., *Reconstituting the Natural Gas Industry from Wellhead to Burnertip*, 9 ENERGY L.J. 1, 11-16 (1988) (discussing the Natural Gas Policy Act of 1978).

146. *See* U.C.C. § 2-306 cmt. 2.; *see also supra* note 101.

147. *See* Iowa Elec. Light & Power Co. v. Atlas Corp., 467 F. Supp. 129, 137 (N.D. Iowa 1978) (refusing to excuse performance under a contract because supplier failed to show that its cost increases resulted from actions beyond its control or were unforeseeable at the time of contracting); Missouri Pub. Serv. Co. v. Peabody Coal Co., 583 S.W.2d 721, 728 (Mo. Ct. App. 1979) (enforcing a contract to supply a public utility with coal despite an unprofitable bargain for seller).

148. *See* Paul L. Joskow, *Commercial Impossibility, The Uranium Market and the Westinghouse Case*, 6 J. LEGAL STUD. 119, 150-76 (1977) (discussing commercial impracticability defense under section 2-615 of the U.C.C.); *see also* U.C.C. § 2-306 cmt. 2 (noting that elasticity or requirements to "curtail losses" may constitute breach).

As others observe, this approach to enforcing contracts has some efficiency basis in the long-term contract context where the seller is the superior risk-bearer.[149] In the electric utility context, the long-term agreement is endorsed by a regulatory authority between a utility and its customers, which we know as the regulatory compact. One of the parties to this hypothetical agreement, the utility, is a rate-regulated monopolist. Vis-à-vis 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 shut-off among multiple customers, especially when 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.[150] The utility, then, can attempt to seek compensation for these risks and costs through 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 intellectual grounding in economic efficiency, one of the economic problems created by service extension and continuation obligations is cross-subsidization. Price regulation of electric utilities, like regulation of other 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 a lower quantity than in competitive markets. Recall the theoretical solution to this problem presented by neoclassical economics—set price equal to marginal cost, thus mimicking the result of a

149. *See* Richard E. Speidel, *Court-Imposed Price Adjustments Under Long-Term Supply Contracts*, 76 Nw. U. L. Rev. 369, 381-94 (1981) (discussing efficiency); *see also* Richard A. Posner & Andrew M. Rosenfield, *Impossibility and Related Doctrines in Contract Law: An Economic Analysis*, 6 J. LEGAL STUD. 83, 90 (1977) (describing a superior risk-bearer as the party who may be in the best position to prevent a risk from materializing).

150. 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.

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.[151] 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.[152] 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."[153]

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, which the common law recognized and many states currently impose by regulation,[154] 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 for the service extension obligation.

In addition, the service continuation obligation facilitates intra-class cross-subsidization by building into all customers' rates the costs of nonpaying customers. Although this likely leads to mismatches between any one customer's costs and rates, it allows utilities to spread the cost of nonpayment among all customers. When a utility removes a nonpaying customer from its system by disconnecting service, two things occur: first, 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 second,

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151. *See* DENNIS W. CARLTON & JEFFREY M. PERLOFF, MODERN INDUSTRIAL ORGANIZATION 869-71 (1994) (discissing economies of scale); KENNETH E. TRAIN, OPTIMAL REGULATION: THE ECONOMIC THEORY OF NATURAL MONOPOLY 14-15 (1991) (same).

152. 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 et al. eds., 1987). *See generally* William J. Baumol & David F. Bradford, *Optimal Departures from Marginal Cost Pricing*, 60 AM. ECON. REV. 265 (1970) (presenting theorems te deal with marginal cost pricing).

153. WILLIAM J. BAUMOL & J. GREGORY SIDAK, TRANSMISSION PRICING AND STRANDED COSTS IN THE ELECTRIC POWER INDUSTRY 33 (1995).

154. *See supra* notes 94-95 and accompanying text.

the utility forgoes the revenue that it would have collected from the household if service were continued. So there is a general economic advantage to all ratepayers in keeping as many customers as possible on the system. Service continuation obligations allow the utility to spread fixed costs over a larger number of customers and to reduce the portion of each customer's bill allocated to fixed costs.[155] Thus, even in the event of nonpayment, it may be cost-effective for a utility with excess capacity to continue service to a customer and to accommodate the nonpaying customer 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. The duty to serve thus has led a relatively peaceful coexistence with franchise and price regulation.

This extended discussion suggests that the economic justifications for regulation provide different rationales to support more extension service obligations for natural monopoly industries than for other private businesses. The common law recognized this, and it is reinforced by the modern administrative state.[156]

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155. *See* Roger Colton, *A Cost-Based Response to Low-Income Energy Problems*, PUB. UTIL. FORT., Mar. 1, 1991, at 31 (discussing the energy assurance program).

156. Singer, in his recent argument that all private firms assume similar obligations to serve customers, is dismissive of the contributions Bruce Wyman made in developing an early twentieth century intellectual grounding for extraordinary service obligations. For example, Singer statos, "Wyman attempted to rationalize the Lochnerian view that public service companies were exceptional and legitimately subject to much more extensive legislative regulation than were other business corporations." Singer, *supra* note 4, at 1403. Singer is perhaps correct that Wyman, in his early approach to developing a progressive theory of utility regulation, was culturally wed to Lochneresque assumptions and was dismissive of the public interest in requiring access obligations in other contexts. For instance, Singer identifies a few instances in which Wyman adheres to a bright line distinction between those businesses with a duty to serve, such as blacksmiths and innkeepers, and those businesses without, such as most retail stores. *See id.* at 1403-09. I do not disagree with Singer that some obligations applied at common law to even non-monopolistic industries that held themselves out as open to the public, but these obligations were much less extensive and did not have the same intellectual grounding in the economics of natural monopoly as public utility service obligations. *See also FCC Origins of the Duty to Serve*, *supra* note 4, at 534 (contrasting consumer law test for communications utility service obligations, based on monopoly control over an essential facility, with tort liability standard for common carriers, based on "holding out" service to the public).

III. THE DAWN OF RETAIL COMPETITION: PUBLIC UTILITY RESTRUCTURING AND THE EMERGENCE OF RETAIL POWER MARKETS

Cross-subsidies are not without controversy, but the fiction of the regulatory compact coupled with the economics of price regulation have masked the redistributive nature of extraordinary utility service obligations for the past hundred or so years. Following World War II, 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.[157] 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.[158]

For example, as Eli Noam has recently 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.[159] 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; it also benefits utilities, as regulators allow recovery of universal service costs by guaranteeing minimum service access charges or rates.[160]

If this public choice explanation is applicable to national legislation regulating telecommunications, it would seem an even more plausible description of the regulation of electricity and natural gas commodities. Electricity and natural gas industries have developed service obligations primarily at the state level, which is likely 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

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

158. *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. 3 (1971).

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

160. *See id.*

electricity and natural gas contexts may have resulted from utilities, consumers, and their representatives securing, or capturing, a regulatory benefit from the political process, rather than from some public-spirited regulatory compact.

Capture, though, has not always inured to the benefit of consumers. The account of utility regulation supported by the Williamsonian framework, coupled with the regulatory compact endorsed by Bruce Wyman, seems plausible. But, as Williamson himself has observed, it ignores how capture, or strategic and opportunistic behavior by utilities, might have developed over time to the disadvantage of consumers.[161] Indeed, over the last thirty years the public choice critique has been put to use by reformers bent on dismantling or restructuring the traditional regulatory compact in a variety of contexts, including the railroad, trucking, and telecommunications industries.[162]

Aided by the public choice critique and recent technological innovations in power generation,[163] the introduction of competition to the electric utility industry has been motivated in large part by large consumer interests, particularly the interests of high-load industrial customers, and not by the multiplicity of small residential customers who depend upon their local utilities to provide dependable, low-cost electrical service for heat and air conditioning, cooking, health and personal hygiene, and entertainment.[164] Large customers have sought to enhance competition because, at least for many of them, the marginal costs of electricity are less than the average costs, which by and large are built into their rates set by utility regulators.[165] This is not to suggest that small commercial and residential customers will realize no benefits from competition, but that large consumer interests have been the primary driving force behind much of the policy debate to date.

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161. *See* Williamson, *supra* note 3, at 1012-14.

162. *See generally* STEPHEN BREYER, REGULATION AND ITS REFORM (1982); KENNETH W. COSTELLO & ROBERT J. GRANIERE, DEREGULATION-RESTRUCTURING: EVIDENCE FOR INDIVIDUAL INDUSTRIES (1997); RICHARD H.K. VIETOR, CONTRIVED COMPETITION: REGULATION AND DEREGULATION IN AMERICA (1994); *see also* Mashaw, *supra* note 157 (summarizing the cynical view towards regulation of many public choice theorists).

163. These innovations began in the 1970s. *See* JOSKOW & SCHMALENSEE, *supra* note 135, at 51-53.

164. For example, in New York, concerns about losing jobs have been a primary motivation behind competitive utility restructuring. *See* Agis Salpukas, *The New Push for Less Costly Electric Power*, N.Y. TIMES, Mar. 23, 1997, at 39 (noting "large industrial customers have provided the biggest push for deregulation of the electric industry").

165. *See* JOSKOW & SCHMALENSEE, *supra* note 135, at 89-90.

The policy arguments in favor of retail competition in electricity, though, are not solely rhetorical byproducts of interest group politics. There is some solid support in favor of changes to the traditional regulatory compact in economic theory and evidence. This Part presents some of the economic rationales for the recent introduction of competition to the electric utility industry in the context of recent restructuring reforms. Following a brief description of some of the statutory and regulatory developments, retail wheeling policies and their implications to the industry are briefly summarized.

A. Failures in Rate Regulation and the Rise of Competition in Power Generation and Wholesale Transmission Access

Following the introduction of electric utility rate regulation, utilities experienced decades of steady sales growth and declining prices. Between 1906 and 1970, the industry more than quadrupled its number of customers, and the average price to residential customers declined from ten cents to 2.6 cents per kilowatt-hour ("kWh"), without any adjustment for inflation.[166] However, in the 1970s there was an abrupt change in this pattern of increased growth and declining prices. The cumulative effects of inflation, oil price shocks, and fuel prices, as well as the onset of environmental regulation, led to consistent increases in the costs of producing power from traditional generation facilities.[167] Moreover, power generation cost increases were overwhelmed by the skyrocketing costs of building new power plants, particularly nuclear plants.[168]

Together, these events bolstered the perception that traditional franchise and price regulation were failing at some of their most basic tasks.[169] Because under rate regulation utilities had financial incentives to earn above-normal rates of return on investment, many utilities overinvested in capital. Electric utilities were perceived to have some of the same general problems as other indus-

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166. *See* FOX-PENNER, *supra* note 71, at 12.

167. *See* JOSKOW & SCHMALENSEE, *supra* note 135, at 51-58.

168. Peter Fox-Penner observes:

> [T]he average cost per kilowatt hour of capacity for new nuclear power plants finished between 1968 and 1971 was $161/kilowatt. For plants finished between 1979 and 1984, average costs rose almost tenfold, to $1,372/kW. And the 20 most expensive nuclear plants in the United States ranged in cost from $1,607/kW to $5,810/kW.

FOX-PENNER, *supra* note 71, at 14.

169. *See* Andrew P. Morriss, *Implications of Second-Best Theory for Administrative and Regulatory Law: A Case Study of Public Utility Regulation*, 73 CHI.-KENT L. REV. 135, 136-37 (1998) (arguing that second-best theory suggests a modest attitude towards efficiency in the design of public utility regulation).

tries regulated on a cost-of-service basis: bloated costs and other inefficiencies (*i.e.*, the Averch-Johnson or "AJ" effect).[170] A technology-driven fall in prices masked these inefficiencies, but by the 1970s other developments threatened the traditional structure. First, as has already been described, in the late 1960s and 1970s electric rates began to increase due to rising fuel and environmental costs. Second, utilities began to exhaust economies of scale in power production; power production was no longer considered a natural monopoly, but was viewed as competitive, or at least contestable.[171] The cumulative failures of regulation, coupled with remarkable innovations rendering old technology inefficient or obsolete, suggested that new efficiencies could be realized by introducing competition to certain sectors of the electricity industry.[172]

As recently as 1989, the electricity industry was described as "largely unaffected" by the deregulatory movement that produced significant changes in the railroad, trucking, airline, telecommunications, financial services, and natural gas industries.[173] Although rate regulation was slow to change, beginning in the mid-1970s many large customers of electricity realized that significant savings could be realized by self-generating electricity or buying it from independent power producers ("IPPs"), which are non-utility firms that have entered into electricity generation markets. As IPPs have attempted to enter into electricity generation markets, the legal structure regulating the electric utility industry has undergone significant changes in several respects. Reforms over the past ten years have been remarkable. Today, the production, or *generation*, sector of the industry is viewed as competitive (or at least contestable) and has

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170. *See generally* Harvey Averch & Leland L. Johnson, *Behavior of the Firm Under Regulatory Constraint*, 52 AM. ECON. REV. 1052 (1962) (examining the level of prices changed hy the telephone and telegraph industry).

171. *See* JOSKOW & SCHMALENSEE, *supra* note 135, at 48-54. On contestable markets, see generally Elizabeth E. Bailey & William J. Baumol, *Deregulation and the Theory of Contestable Markets*, 1 YALE J. ON REG. 111 (1984) (defining contestable markets as between perfect competition and natural monopoly).

172. A recent Department of Energy Report estimates some of the impacts of regulatory reform on competitive pricing of electricity. Price reductions between six and thirteen percent could be realized almost immediately for customers with competitive pricing of electricity, although this does not include regulatory recovery of stranded investments; over the long run, price reductions are expected te be larger. *See* ENERGY INFORMATION ADMINISTRATION, DEP'T OF ENERGY, ELECTRICITY PRICES IN A COMPETITIVE ENVIRONMENT: MARGINAL COST PRICING OF GENERATION SERVICES AND FINANCIAL STATUS OF ELECTRIC UTILITIES, A PRELIMINARY ANALYSIS THROUGH 2015, DOE/EIA-0614, at xi-xvi (Aug. 1997) <http://www.eia.doe.gov/oiaf/elepri97/comp.html> [hereinafter ELECTRICITY PRICES].

173. Paul L. Joskow, *Regulatory Failure, Regulatory Reform, and Structural Change in the Electrical Power Industry*, 1989 BROOKINGS PAPERS ON ECON. ACTIVITY, MICROECONOMICS, 125, 125.

experienced near-complete economic deregulation.[174] The *transmission* and *distribution* sectors of the industry have, in the minds of most, remained paradigm natural monopolies—that is, they are services for which the entire market demand can be served at a lower cost by a single firm than by two or more firms.[175]

Initial reform efforts to regulation of the industry focused on creating adequate incentives for IPPs to compete with traditional, vertically-integrated utilities. In 1978, Congress adopted the Public Utilities Regulatory Policies Act of 1978 ("PURPA"),[176] a major piece of federal legislation designed to create incentives for many IPPs to provide new power generation, as a conservation and efficiency enhancing alternative to traditional electric utility power generation.[177] Under PURPA, utilities were required to purchase surplus power from qualifying IPPs at "avoided cost" rates—that is, the cost the utility would have to incur if it built another power plant to meet this need or purchased the power from someone else.[178] PURPA also authorized FERC to mandate wholesale transmission access, although FERC never used this authority directly.[179]

The second major set of reforms was implemented on a piecemeal basis in the 1980s and early 1990s, as FERC attempted to

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174. Of course, siting and environmental regulation of electricity generation remains heavy. *See* Scott F. Bertschi, *Integrated Resource Planning and Demand Side Management in Electric Utility Deregulation: Public Utility Panacea or a Waste of Energy?*, 43 EMORY L.J. 815, 830 (1994); *see also* Robert J. Michaels, *Reason for Pessimism*, PUB. UTIL. FORT., Sept. 15, 1993, at 16 (noting that FERC's efforts to enhance competition cannot succeed because states have the power to control siting and certification of electrical facilities).

175. A condition for natural monopoly is the existence of increasing returns to scale (i.e., declining average cost) over the relevant range of production. *See supra* note 121.

176. Public Utilities Regulatory Policies Act of 1978, Pub. L. No. 95-617, 92 Stat. 3117 (1978) (codified as amended at 16 U.S.C. §§ 824a-1 to a-3, 824i-k, 2601-2645 (1994)).

177. *See* 16 U.S.C. § 2601 (1994) (PURPA's findings, noting purposes of increased competition and increased efficiency but not expressly directing FERC to increase competition or deregulato rates).

178. 16 U.S.C. § 824a-3(b) (1994) (requiring that the rate for purchase from qualifying generation facilities shall not exceed "the incremental cost te the electric utility of alternative electric energy").

179. PURPA added sections 211 and 212 to the Federal Power Act, authorizing FERC te order wholesale transmission by utilities. *See* 16 U.S.C. § 824j(c) (1994). However, following several appellate cases addressing the scope of this new authority, FERC interpreted its authority narrowly and never used it to directly compel wholesale transmission. *See, e.g.*, Florida Power & Light Co. v. FERC, 660 F.2d 668, 677-79 (5th Cir. 1981) (reversing FERC order compelling utility to file amended tariff schedule for interchange transmission service on the basis that the order would impermissibly impose common carrier status on utilities); New York State Elec. & Gas Corp. v. FERC, 638 F.2d 388, 402 (2d Cir. 1980) ("[I]t is clear from the express requirements of §§ 211 and 212 that the public interest and the enhancement of competition are not alone sufficient justification for compelling wheeling."); *see also* Southeastern Power Admin. v. Kentucky Utils. Co., 26 F.E.R.C. (CCH) ¶ 61,127 at 61,323 (1984) (interpreting section 211 to "prohibit[ ] the issuance of wheeling orders that have a significant procompetitive effect.").

commence deregulation of the bulk power industry based on the natural gas restructuring model.[180] Regulators at FERC, which oversees wholesale power transactions, and state regulatory commissions applied light-handed regulation to IPPs, initiated market-based rate mechanisms, and began to require competitive bidding for new generation capacity.[181] As a routine matter, competitive bidding for new capacity has replaced the traditional utility decisions to build. As of 1993, non-utility generators accounted for over one-half of generation capacity anticipated to be on-line by the next year, over thirty PSCs had initiated "competitive bidding" programs for new generation, and FERC and many PSCs had accepted hundreds of market-based or negotiated rate filings in lieu of the traditional cost-of-service, which often culminated in lengthy adjudicative hearings.[182] Currently, the independent power sector of the industry is structurally competitive with nearly fifty major firms and many more small firms bidding to meet the demand for power.[183] Unregulated power producers are now bearing many industry risks, such as the risks of construction cost overruns, formerly borne by the consumers responsible for paying rates to regulated utilities.

In 1992, on the heels of the Gulf Crisis, Congress endorsed competitive reforms brewing in the electric utility industry when it passed the Energy Policy Act of 1992 (EPAct).[184] The EPAct increased FERC's authority to mandate wholesale transmission access,[185] inviting FERC to directly require utilities to transmit power for others for the first time.[186] Also, the EPAct created additional incentives for the growth of the IPP industry.[187]

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180. *See generally* Richard J. Pierce, Jr., *A Proposal to Deregulate the Market for Bulk Power*, 72 VA. L. REV. 1183 (1986); Richard J. Pierce, Jr., *Reconsidering the Roles of Regulation and Competition in the Natural Gas Industry*, 97 HARV. L. REV. 345 (1983).

181. *See generally* Jim Rossi, *Redeeming Judicial Review: The Hard Look Doctrine and Federal Regulatory Efforts to Restructure the Electric Utility Industry*, 1994 WIS. L. REV. 763, 794-96 (examining the authority and decisions of FERC).

182. *See* Order Terminating Proceedings, 64 F.E.R.C. (CCH) ¶ 61,364 (1993).

183. *See* FOX-PENNER, *supra* note 71, at 120.

184. Energy Policy Act of 1992, Pub. L. No. 102-486, §§ 721-22, 106 Stat. 2776 (1992) (amending §§ 211 & 212 of the Federal Power Act (FPA)), 16 U.S.C. § 824j-k (1994). For discussion of the political process leading to adoption of the EPAct, see Jim Rossi, *Lessons from the Procedural Politics of the "Comprehensive" National Energy Policy Act of 1992*, 19 HARV. ENVT'L L. REV. 195 (1995).

185. *See* Energy Policy Act §§ 721-22, 16 U.S.C. § 824 (1994) (replacing transmission access sections to the Federal Power Act).

186. *See* Florida Mun. Power Agency v. Florida Power & Light Co., 65 F.E.R.C. (CCH) ¶ 61,125 (1993) (granting request for transmission service and establishing further proceedings to investigate the rates, terms and conditions of such service).

187. *See* Energy Policy Act § 711, 15 U.S.C. § 79z-5a(e) (1994).

By far, however, the most significant event to date in electricity industry restructuring is a rulemaking FERC adopted in 1996, known as the electricity mega-NOPR or Order No. 888.[188] Order No. 888 is designed to restructure wholesale markets for electricity, in a manner similar to FERC's competitive restructuring of the natural gas industry which FERC achieved in 1992 by adopting Order No. 636.[189] Order No. 636 required that natural gas pipeline companies file open access tariffs with FERC[190] and unbundle natural gas sales and transportation.[191] Similarly, Order No. 888 requires all jurisdictional electric utilities to file wholesale transmission access tariffs[192] and creates incentives for structural unbundling—that is, for utilities to separate ownership and control of transmission and generation assets.[193] FERC's requirement of open access to transmission facilities on comparable terms has increased competition, because now a wider range of generators and utilities have access to a networked wholesale power grid.

In addition, the separation of generation and transmission ownership is expected to reduce some of the economic adverse incentives of vertical integration, such as favoritism in granting access to the transmission facilities which are essential to the development of competitive power markets.[194] As the Williamsonian framework illustrates, a vertically integrated industry structure allowed electric utilities to take advantage of operational and technical efficiencies in coordinating power supply and demand. However, vertical integration of generation, transmission, and distribution also risked reduced access to natural monopoly network

188. Promoting Wholesale Competition Through Open Access Non-Discriminatory Transmission Services by Public Utilities and Transmitting Utilities, 61 Fed. Reg. 21,540 (1996) (codified at 18 C.F.R. pts. 35 & 385 (1997)).

189. 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 Companies v. FERC, 88 F.3d 1105 (D.C. Cir. 1996), *order on remand*, 78 F.E.R.C. (CCH) ¶ 61,186 (1997) (codified at 18 C.F.R. pt. 284 (1997)).

190. *See id.* at 13,282 (1992).

191. *See id.* at 13,279.

192. *See* 61 Fed. Reg. at 21,541.

193. *See id.*

194. Unlike the natural gas industry, which was characterized by modest vertical integration prior to restructuring, the electric utility industry has a high degree of vertical integration. This structural characteristic of the industry will impede competition, and that vertical deintegration or unbundling will be necessary for competition in the industry. *See* Richard J. Pierce, Jr., *The State of the Transition to Competitive Markets in Natural Gas & Electricity*, 15 ENERGY L.J. 323, 342-49 (1994) [hereinafter *Transition*].

facilities, particularly transmission and distribution.[195] Without access to essential transmission facilities, competitive generation markets were thwarted. Following FERC's regulations, utilities that spin off generation or functionally separate generation from other utility functions will realize greater benefits in a competitive wholesale power market.[196]

B. The Introduction of Retail Wheeling

The legal and institutional structures for implementing wholesale competition are well under development, but under current federal law the implementation of retail competition is beyond FERC's authority.[197] Because of this, retail competition is the subject of very heated debate in many states.[198] It is well-recognized that, in order to maximize the benefits of competition in wholesale power markets, retail access to competition for all customers will be necessary. Although small commercial and residential consumers currently realize many of the benefits of wholesale competition, which are passed on through their utility's rates, without retail competition, individual consumers do not have power supply options and must purchase their power from the incumbent utility. The incumbent utility, which in most cases continues to own both transmission and generation, is typically reluctant to allow consumers to opt to purchase their power elsewhere, so consumers generally remain captive to the incumbent even though lower-priced power may be available from another supplier. The result is to limit participation in retail markets to large industrial, governmental, and large commercial customers, to the

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195. For the general argument that vertical integration may exert influence on barriers to entry, see ROGER D. BLAIR & DAVID L. KASERMAN, LAW AND ECONOMICS OF VERTICAL INTEGRATION AND CONTROL 42-47 (1983).

196. *See* Jim Rossi, *Can the FERC Overcome Special Interest Politics*, PUB. UTIL. FORT., Oct. 15, 1995, at 31 (observing that proposal leading to FERC Order No. 888 offers incentives for voluntary unbundling).

197. The EPAct, continuing the bright line jurisdiction between wholesale (federally regulated) and retail (state regulated) transactions well-known to electric regulators, amended the FPA to expressly preclude FERC from exercising its jurisdiction over retail transmissions. *See* 16 U.S.C. § 824k(h) (1994). The FPA, as amended, preserves the "authority of any State or local government concerning the transmission of electric energy directly to an ultimate consumer." *Id.*

198. Of course, not all states considering the issue have decided to adopt retail competition. *See, e.g., In re* Changes Occurring in the Elec. Indus., 172 P.U.R.4th 11 (Idaho Pub. Util. Comm'n 1996) ("express[ing] the expectation that the electric industry . . . will continue te experience a transformation toward free market principles" but recommending caution to protect Idaho ratepayers); *In re* Emerging Competition in the Elec. Util. Indus., 165 P.U.R.4th 101 (Iowa Util. Brd. 1995) (noting "no consensus as to whether full retail competition would benefit electric consumers in the state" and recommending further research and study).

extent allowed by state law.[199] Yet, as these larger customers benefit from retail supply options, smaller customers continue to bear the burden of financing generation assets the incumbent utility may have planned and built to meet the large customer demand. Without retail choice opportunities for all customers, smaller customers are at a significant risk of bearing the burden of excess capacity as larger customers self-generate, bypass the system, or wheel power if allowed by state law.

Many states, including California, Illinois, New Hampshire, Rhode Island, and Vermont, have already adopted legislation or regulations designed to implement retail wheeling for all customers.[200] In addition, some states, such as New York, have initiated retail wheeling pilot programs for residential customers.[201] Most states either have statewide retail wheeling proposals under consideration or are currently studying the issue.[202] In addition, some proposed federal legislation designed to address competition in the electric utility industry requires states to implement retail wheeling.[203]

Retail wheeling will bring about significant changes to the current structure of the electric utility industry. As an illustration, consider California's framework for introducing consumer choice to the industry,[204] the first state retail competition plan in the United States.[205] California's plan envisions giving all customers a choice of

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199. Larger consumers have had retail choices pursuant to federal law since 1978. *See supra* notes 176-83 and accompanying text.

200. *See, e.g.*, CAL. A.B. No. 1890 (enacted Sept. 24, 1996); R.I. GEN. LAWS § 39-1-27.3 (e)-(f) (1997); *In re* Restructuring New Hampshire's Elec. Util. Indus., 175 P.U.R.4th 193, 249 (N.H. Pub. Util. Comm'n 1997); *In re* Restructuring of the Elec. Util. Indus. in Vermont, 174 P.U.R.4th 409, 434 (Vt. Pub. Serv. Bd. 1996).

201. *See* Joseph F. Schuler, Jr., *Residential Pilot Programs: Who's Doing, Who's Dealing?*, PUB. UTIL. FORT., Jan. 1, 1997, at 16.

202. *See* ELECTRICITY PRICES, *supra* note 172, at 5 (noting Arkansas, Florida, Montana, Tennessee and South Dakota were the only states as of December 1996 that had not initiated activities to address the issue of electricity competition).

203. *See* Schuler, *supra* note 18 (describing key bills before Congress). The Clinten Administration stepped into the fray with its own set of restructuring proposals in Marcb 1998. *See* Agis Salpukas, *Power Deregulation: Shadow, Substance and Politics*, N.Y. TIMES, Mar. 26, 1998, at D3.

204. Act of September 23, 1996, ch. 854, 1996 Cal. Legis. Serv. Ch. 854 (West) (A.B. 1890, codified in scattered sections of CAL. CODE) (restructuring of public electric utilities) (available in Westlaw database CA-LEGIS-OLD).

205. California's Public Utilities Commission began its investigation of the issue in 1992 and commenced a rulemaking in April 1994. It issued its policy decision in Spring 1996. *See In re* Proposed Policies Governing Restructuring California's Elec. Servs. Indus. and Reforming Regulation, 166 P.U.R.4th 1 (Cal. Pub. Util. Comm'n 1996) [hereinafter *California's Reforming*]. While this decision envisioned that all customers would have retail choice opportunities within five years, *id.* at 1, the Legislature shortened this to four years in Fall 1996, when it adopted A.B. 1890.

power suppliers after a four year transition period.[206] Customers under California's plan will have a variety of options. They "can choose to purchase power according to default rates from their current utility, through direct negotiated terms and conditions with competing non-utility retail electric service providers, or through brokers, marketers, aggregators, and other retailers."[207] A utility distribution company, what has come in the industry to be known as a "DisCo,"[208] "will continue to procure power for those customers who do not want to arrange their own retail contracts with non-utility suppliers."[209]

The DisCo seems similar to the traditional incumbent utility, but it serves a completely different function in emerging competitive retail markets. Like the traditional incumbent electric utility, it is a provider of last resort power, but the DisCo is not necessarily the power supplier. Instead, customers, through brokers or marketers, can choose alternative suppliers. The DisCo gives these suppliers access to its system for a fee, and its primary role will be to use advanced metering equipment to ensure that power supply on its system is roughly equal to power demands at any given moment. However, under California's retail competition plan, as with most, complete DisCo divestiture of generation assets is not required: "Utilities will continue to control and operate their distribution system, to own and operate their generation assets (subject to some divestiture), and to procure generation services for their energy service customers."[210] In addition, a DisCo or other utility may continue to own transmission, although transmission will be operated by an Independent Service Operator ("ISO"), which unifies the state's grid "to coordinate the daily scheduling and dispatch activities of all market participants as required to meet the critical objectives of providing open, nondiscriminatory access to the transmission grid while preserving reliability and achieving the lowest total cost for all uses of the transmission system."[211]

To the extent that the DisCo owns or controls generation as well as transmission facilities, in California the DisCo is required to

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206. *See In re* Proposed Policies Governing Restructuring Cal. Elec. Servs. Indus. and Reforming Regulation, 177 P.U.R.4th 1, 6 (Cal. Pub. Util. Comm'n 1997) [hereinafter *California's Restructuring*] (adopting policies and rules to facilitate competition in California's electric energy market).

207. *Id.*

208. *See* FOX-PENNER, *supra* note 71, at ch. 9 (discussing the roles of the DisCo in retail markets).

209. *California's Restructuring*, 177 P.U.R.4th at 6.

210. *California's Reforming*, 166 P.U.R.4th at 79.

211. *Id.* at 14.

bid into the power exchange, a market that is open to all suppliers, including out of state suppliers and municipal utilities. The power exchange, which has no financial interest in generation, is designed to "foster and sustain the development of a transparent spot market for the generation of electricity."[212] It facilitates "the auction determination of real time pricing of electricity and the transparent manifestation of these price signals."[213] Power needs for the DisCo's incumbent customers who opt not to participate in the retail market, in turn, must be purchased from the power exchange.[214] California's approach, known as the "PoolCo" model, provides a novel mechanism for developing spot markets in electricity while also discouraging incumbent DisCos from acting strategically to thwart consumer choice of non-DisCo power.[215] California's PoolCo approach is likely to prove a model for other states addressing competition.[216]

With retail wheeling, increased vertical de-integration, and the rise of contestable generation markets, some operational transaction-cost efficiencies will also be lost. However, it is hoped that the evolu-

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212. *Id.* at 13.

213. *Id.*

214. *See id.* at 26 (during transition period preceeding unbundling, "our investor owned utilities should he required to bid all of their generation into the Power Exchange and satisfy their need for electric energy on behalf of their full service customers with purchases made from the Exchange").

215. The transmission restructuring debate, at both wholesale and retail levels, has focused on two main models for delivery of electricity: 1) direct access through bilateral transactions, and 2) trading through a pool, known as "PoolCo." Under direct access, consumers negotiate directly with electricity sellers such as IPPs. All sellers have access to the transmission grid, which functions as a contract path to consummate transactions with buyers. This may occur through a central informational clearinghouse, or through the assistance of brokers and traders. The PoolCo approach differs in that buyers and sellers must trade through a centralized power pool, which establishes a transparent market clearing price and dispatches power according to the principles of economic dispatch. Under the PoolCo approach, the grid also acts as a contract path, but it dispatches power on an integrated network basis. Spot prices under the PoolCo approach are still set by the market, but the centralized pool ensures that a robust market for power will develop. The leading advocate of the PoolCo approach is a Harvard economist, William Hogan. *See* William W. Hogan, *Electricity Transmission and Emerging Competition: Why the FERC's Mega-NOPR Falls Short*, PUB. UTIL. FORT., July 1, 1995, at 32. For discussions of the merits of the bilateral transaction/PoolCo debate, see SALLY HUNT & GRAHAM SHUTTLEWORTH, COMPETITION AND CHOICE IN ELECTRICITY 83-84 (1996) (mildly favoring the PoolCo approach because it will help to evolve spot markets and has lower relative litigation costs); Peter Navarro, *A Guidebook and Research Agenda for Restructuring the Electricity Industry*, 16 ENERGY L.J. 347, 383-93 (1995) (surveying the debate and proposing a PoolPlus alternative, which posts a menu of short, medium and long range prices).

216. California's power exchange opened on March 31, 1998. *See* Kenneth Howe, *It's Lights, Cameras and Deregulation,* S.F. CHRON., Apr. 1, 1998, at A1 (noting drop in average price of electricity on first day of market's operation). Of course, not all of the reaction to California's emerging electricity market has been positive. One well-recognized problem is apathy among residential consumers. *See* Agis Salpukas, *Power Deregulated. Consumers Yawn*, N.Y. TIMES, Feb. 26, 1998, at C1.

tion of creative new transactional relationships will recapture some of the operational efficiencies of integration without sacrificing price efficiency. For example, a vertically de-integrated electricity industry will create strong incentives for instant, spot and futures markets in—as well as contractual purchases of—electricity.

Brokering and trading[217] of electricity commodities, if appropriately implemented through a market such as California's power exchange, could recapture the economies of vertical integration and pooling without giving rise to the transaction costs associated with complex long-term contracts or intra-firm vertical integration. This will rely on efficient pricing mechanisms, such as implementing a PoolCo system along with contracts for differences. Such an approach would allow bilateral negotiations between buyers and sellers, as well as participation in a PoolCo. For example, under this approach buyers and sellers would negotiate a contract for differences, binding the seller to provide power at four cents per kWh. If the PoolCo price is five cents per kWh, the supplier gets five cents from the pool and rebates one cent to the buyer. However, if the PoolCo price is three cents per kWh, the generator gets three cents from the pool and one cent from the buyer.[218]

So envisioned, in a competitive electricity market the coordination economies currently provided through vertical integration and the state's grant of a franchise territory could occur automatically, if individual brokers and traders were encouraged to competitively buy and sell the various services they need or produce at various times and locations. Market players need open and nondiscriminatory access to markets for trading and dealing in, not just for wheeling, electricity. Increasing the scope, membership, and pricing sophistication of utility dispatch, pooling, and economy energy trading processes could eventually lead to the rise of open spot and futures markets in electricity. Instant, spot and future trading markets can promote the same operational economies as the traditional vertically-integrated institutional infrastructure monopoly in the electricity industry.

There are analogues in other commodity contexts. For example, crude oil is produced, moved, processed, and consumed by geographically dispersed and economically diversified buyers, sellers, and transporters through complex, long-term bilateral agreements.

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217. Brokers match buyers and sellers for a fee. Traders act as independent buyers and sellers of electricity. Brokers bear none of the risk associated with supply obligations while traders bear the contractual risk of meeting supply similar te present utility obligations to serve their custemers.

218. *See* Navarro, *supra* note 215, at 394.

However, at any given instance, brokers and traders look for the most economical way to use the industry's dispersed assets to meet total dispersed demand. They do this by shifting production from one well to another, processing from one refinery to another, and physical shipments from one route to another, independent of pre-defined contract paths. The fact that a producer (P) at a specific location (X) has a contract to deliver oil to a customer at another location (Y) by means of a specific tanker (T) does not mean that P will produce its own oil at X and move it from X to Y in T.[219] Oil contracts move money, not oil. So too could competitive electricity markets move money, not power.[220]

Commodity markets in electricity would not only encourage operational efficiency, but would also enhance greater degrees of price competition. In such a regime, energy prices must clear the market instantaneously if generation is to be fully competitive. Traditional rate regulation, based on the cost of providing service, inhibits prices from increasing to market-clearing or rationing levels when demand exceeds available capacity. Under traditional rate regulation, some firms must have an obligation to maintain sufficient capacity to meet under-priced demand during such periods. A competitive regime would regard prices as technical devices that the industry uses to manage its daily affairs. For the average customer, prices would remain fairly stable.[221]

In a competitive electricity regime, pooling companies would provide economy dispatch and coordinate system marginal prices ("system lambda") with separately owned suppliers, DisCos, and transmission utilities.[222] Once all players have access to the same system of regional spot markets, or PoolCos, energy contracts having no direct effect on system operations or spot pricing can be written. Each entity interacts directly with its local PoolCo to maximize profits or minimize costs on a daily basis. Ex post payments between contracting parties would maintain contractually specified results.

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219. *See generally* STEWART L. BROWN & STEVEN ERRERA, TRADING ENERGY FUTURES: A MANUAL FOR ENERGY INDUSTRY PROFESSIONALS (1987).

220. The wheeling money (not power) approach to power markets has been articulated in Putnam, Bayes & Harlett's comments in FERC's transmission pricing inquiry. For a brief summary of these comments, see Larry E. Ruff, *Stop Wheeling and Start Dealing: Resolving the Transmission Dilemma*, ELECTRICITY J., June 1994, at 24.

221. Similarly, the overnight bank rates central banks use manage the money supply and exchange rates. Even though interest rates in the banking system may occasionally surge to several hundred percent per year for a day or two, the average customer remains unaffected.

222. *See* William W. Hogan, *Contract Networks for Electric Power Transmission*, 4 J. REG. ECON. 211, 212 (1992) (suggesting the use of contract networks or short-term efficient pricing and long-term firm use of a transmission network).

Mechanisms such as futures and options contracts are already beginning to allocate market or operational risks between contracting parties by allowing the parties to hedge against risks.[223]

Such operational and pricing economies are being realized in other countries. In the United Kingdom, the government established the electricity Pool to create a spot market in electricity. The Pool determines the prices for dispatch of power plants and provides a fornm for the setting of prices and distribution of payments for electricity traded. Such payments encourage developers to build generating capacity to meet peak demand.[224] In Norway, where the electricity industry has also undergone significant de-integration beginning with the passage of restructuring legislation in 1990,[225] electricity brokers and traders have emerged as significant players in the Pool market, which accounted for fifteen percent of electricity sales in 1993. The futures market offers contracts on a weekly basis for a maximum of five future years. Spot market purchases are based on prices that are fixed for a period of twenty-four hours, and are established by the Pool operator on the basis of individual supply and demand curves communicated electronically by market participants. The Pool also provides for instant market purchases, allowing participants (limited to producers that can deliver electricity on fifteen minutes notice) to adapt production to actual demand. After spot market prices have been set, market participants are informed of their individual prices and obligations (financial, not physical) for purchase, production, or sale. Discrepancies are settled in the instant market.[226] New Zealand has instituted similar reforms.[227]

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223. In 1996, the New York Mercantile Exchange opened trading in electricity futures contracts. For a discussion, see John R. Eshwiller & Kathryn Kranhold, *What's All the Buzz About Electricity Trading*, WALL ST. J., July 9, 1998, at A2; Anna Godlewska et al., *Price Behavior in Electricity Futures: The Story So Far*, PUB. UTIL. FORT., Jan. 1, 1997, at 32.

224. *See* John E. Kwoka, Jr., *Transforming Power: Lessons from British Electricity Restructuring*, REGULATION, Summer 1997, at 47; Tim Woolf, *Retail Competition in the Electricity Industry: Lessons from the United Kingdom*, ELECTRICITY J., May 1994, at 56, 57.

225. *See* Dan W. York, *Competitive Electricity Market in Practice: Experience from Norway*, ELECTRICITY J., June 1994, at 48 (discussing recent Norwegian restructuring legislation). The Act became effective January 1, 1991, although regulations necessary for complete operation of the industry were not in place until May 1992. Large portions of Norway's system remain under public ownership.

226. *See id.*; Alex Henney, *The Global Evolution of Competitive Power Markets*, PUB. UTIL. FORT., Jan. 15, 1995, at 38.

227. *See* Vernon L. Smith, *Can Electric Power—A "Natural Monopoly"—Be Deregulated, in* MAKING NATIONAL ENERGY POLICY 131 (Hans H. Landsberg ed., 1993).

IV. RETAIL WHEELING AND UNIVERSAL SERVICE: REFIN(-ANC)ING THE DUTY TO SERVE FOR A POST-PUBLIC UTILITY ERA

The dawn of competition in electricity raises a tension for the common law duty to serve, historically protected by public utility franchise and price regulation. This Part discusses the implications of retail competition for the common law duty to serve. I argue that, 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.[228] If viewed purely from the economic efficiency perspective, the content of the traditional public utility duty to serve should be reassessed to fit the structure of a competitive power supply market. To the extent extraordinary service obligations are continued for natural gas and electricity in the same manner that they have been for the past hundred years, regulators will need to articulate alternative justifications outside of economic efficiency, such as fairness or distributive justice.

Yet, regardless of the reasons supporting the perpetuation of extraordinary service obligations, extraordinary service obligations can facilitate access to power supply without undermining efficiency gains, despite the warnings of free marketeers who look askance at the continuation of a duty to serve in a competitive era in emerging competitive retail power markets. At the same time, proposals endorsed by many consumer advocates that suppliers or marketers assume extraordinary service obligations are specious. 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. Regulators must acknowledge a need for new approaches to financing extraordinary service obligations. The introduction of competition will create a demand for distinct interim and longer-term mechanisms for financing the duty to serve.

Along these lines, based upon a review of state retail competition plans to date, this Part addresses the structural efficiency of alternative proposals designed to continue ensuring access to utility service for small residential customers in the face of retail choice. Current state retail wheeling plans require, at a minimum, that the

228. The network system benefits argument, applicable to telecommunications, is less problematic in a competitive market as an intellectual basis for supporting extraordinary service obligations, but it also has its limits. *See supra* Part II.C.1.

power distribution sector of the industry assume some extraordinary service obligation. There is little agreement among the states, though, about whether the various market institutions interacting with the DisCo in retail markets should also bear extraordinary service obligations. After evaluating some various state approaches, I conclude that, in emerging retail power markets, a duty to serve can continue to apply in competitive retail power markets with little disruption to retail competition, but initially this obligation should be limited to DisCos. Efficient financing of this obligation will require an appropriately set system benefits charge ("SBC") on power distribution, unbundling or mandated use of a PoolCo power exchange to facilitate supply access, and properly set exit fees. The lesson of electricity markets is generalizable to other network industries, such as telecommunications and natural gas: In these industries, too, unbundling or the development of a robust supply competitive market clearinghouse, such as the PoolCo, can work to minimize the structural inefficiencies of imposing a duty to serve and concomitant financing mechanisms on incumbent distribution utilities.

At the same time, I conclude that in the long run, as retail power markets flourish, the power distribution industry will face—and, indeed, is already facing—increased pressure to become competitive or contestable. As this pressure grows, regulators will be forced to consider alternatives to an incumbent distribution utility SBC to finance the duty to serve. Thus, I conclude that eventually power markets will need to apply taxation mechanisms to power consumption or supply in order to continue financing the duty to serve. If appropriately structured, financing mechanisms can work to minimize the distortions of the duty to serve in retail power markets, allowing retail competition and the duty to serve to coexist.

A. Continuation of the Duty to Serve in Retail Markets: The Limits of Economic Efficiency and the Importance of Distribution

Wholesale transmission access and competition among wholesale suppliers has not posed any immediate threat to the public utility duty to serve,[229] but the introduction of retail competition requires

229. Since FERC's Order No. 888, wholesale access and supply competition occur under FERC's open access policies, which require a transmission utility to offer transmission service to customers and suppliers at torms and conditions comparable to the service it offers its own power supply. During prior times, competition at the wholesale level may have had potentially adverse impacts on the duty to serve. *See* Bouknight & Raskin, *supra* note 23, at 239 (noting "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").

some reassessment of the intellectual foundations for and practical application of the traditional duty to serve. The California Public Utility Commission's 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 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.[230]

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[231]—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. In at least one state, concerns over the implications of competition for the duty to serve and for service quality more generally were cited as reasons not to pursue retail competition for the present.[232] It should come as no surprise that, in the telecommunications context, many observe a "conflict" between the telcom analog to the duty to serve—universal service—and retail competition.[233]

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230. *In re* Proposed Policies Governing Restructuring of California's Elec. Servs. Indus. and Reforming Regulation, 151 P.U.R.4th 73, 92 (Cal. Pub. Util. Comm'n 1994).

231. For a discussion, see MacAvoy et al., *supra* note 28, at 244.

232. *See In re* Changes Occurring in the Elec. Indus., 172 P.U.R.4th 11, 13 (Idaho Pub. Util. Comm'n 1996) (noting concern with a diminution of service in deregulated environment). The Commission stated, "[i]f retail wheeling is permitted and customers choose, for a period of time, to obtain power from other sources and then wish to return to the utility for service, a legitimate question is whether the utility who [sic] was serving that customer is obligated to serve them once again and if so, at what rates." *Id.* at 22.

233. *See* P. H. LONGSTAFF, TELECOMMUNICATIONS COMPETITION AND UNIVERSAL SERVICE: THE ESSENTIAL TRADEOFFS (1996) (noting tradeoffs between universal service goals and competition); TOWARD COMPETITION, *supra* note 24, at 25 ("a goal that conflicts with economic efficiency is the nearly ubiquitous target called 'universal service' "). *But see* ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT, 38 UNIVERSAL SERVICE OBLIGATIONS IN A COMPETITIVE TELECOMMUNICATIONS ENVIRONMENT 6 (1995) (concluding "competition and the achievement of universal service objectives are not mutually exclusive nor necessarily in conflict").

1. The Challenge of Simultaneous Competition and Access

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. Because 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 electric power markets, treating electricity service 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, the electricity market 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. If a 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.[234] And, should a power distributor refuse to extend or continue service to a customer because it is not profitable, the customer may attempt to find alternatives. For example, alternatives such as self-generation or wheeling around the DisCo may be cost feasible for large, heavy load customers of electricity. Markets, after all, flourish with bilateral relationships; the duty to serve imposes a unilateral obligation on the incumbent utility. Customers in such markets already have a variety of legal protections, including credit financing and consumer protection statutes, such as the Uniform Commercial Code.[235]

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234. Some even suggest that traditional rate regulation has had an adverse effect on the average quality of service. *See* 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 percent over the first few years of deregulation. *See* COSTELLO & GRANIERE, *supra* note 162, at 14.

235. For example, express and implied warranty protections appear in both state and federal law. *See* U.C.C. § 2-313 (1995) (express warranty); § 2-314 (1995) (implied warranty of merchantability); § 2-315 (1995) (implied warranty of fitness for particular purpose); § 2-318 (1995) (extension of warranties te third party beneficiaries expected to use goods); *see also* 15 U.S.C. §§ 2301-2312 (1994) (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) (1994). All states have similar statutes protecting against unfair trade acts. The federal Equal Credit Opportunity Act, 15 U.S.C. § 1691-1691e (1994), and the Fair Credit Reporting Act, 15 U.S.C. § 1681 (1994), establish minimum standards that prevent discrimination in the granting of credit and consumer safeguards; *see also* Consumer Credit Protection Act, 15 U.S.C. ch. 41 (1994); Fair Credit Debt Collection Act, 15 U.S.C. §§ 1692-1692o (1994); Fair Credit Billing Act, 15 U.S.C. §

Yet, 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.[236] In the hospital industry, the obligation of hospitals to serve the indigent is explicitly made a condition in the awarding of federal construction grants.[237] Nonprofit health care providers take on an obligation to provide indigent health care, in part as a condition to the grant of certain governmental benefits, such as federal, state, or local tax benefits.[238] Although it may be questionable how successful these approaches to promoting universal service have been, the experience in these industries suggests that the conflict between retail competition and universal service is not new. Those who look askance at the duty to serve in the age of competition refuse the enormous challenge it poses, but the challenge is not an insurmountable barrier.

To date, those states that have addressed retail competition in power markets express an awareness of the potential tension between the common law duty to serve and competitive retail markets without abandoning either goal. The preamble to California's 1996 retail wheeling legislation states, "[i]t is the further intent of the Legislature to continue to fund low-income ratepayer assistance programs . . . in an unbundled manner" and maintains 1996-level low-

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1637 (1994). State regulation of finance charges, credit terms and the federal Truth in Lending Act ("TILA"), 15 U.S.C. § 1602(f) (1994), have histerically 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.

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

237. The Hill-Burton Act conditions the funding of hospital construction on the provision of uncompensated care to indigent citizens. *See* 42 U.S.C. § 291 (1994). In addition, a federal law called the Emergency Medical Treatment and Active Labor Act, adopted in 1986, requires Medicare-participating hospitals te examine and stabilize all emergency room patients and women in labor. *See* 42 U.S.C. § 1395dd (1994).

238. *See generally* James B. Simpson & Sarah D. Strum, *How Good a Samaritan? Federal Income Tax Exemption for Charitable Hospitals Reconsidered*, 14 U. PUGET SOUND L. REV. 633, 633 (1991) (examining whether charitable hospitals provide enough of a benefit to the community to justity such tax exemptions).

income and universal service expenditures.[239] New Hampshire, which considered similar legislation, is more explicit:

> A restructured electric utility industry should provide adequate safeguards to assure universal service. Minimum residential customer 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 a part of industry restructuring.[240]

The task of formulating extraordinary service obligations 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 enhancement of consumer protection obligations, perhaps from fear of the abuses markets may yield. 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.[241]

2. Rationales for the Duty to Serve and Its Application to the DisCo

At least in the short run, for small load customers, such as residential customers, small business, and single location offices, power distribution is considered to remain a natural monopoly service. Put another way, a single utility will continue to provide distribution to power supply for the large bulk of power customers. So, for most smaller customers who do not have access to capital financing markets or own rights of way to build transmission lines, it is cost prohibitive to duplicate distribution lines if the incumbent DisCo itself owns the facilities.[242] Thus, even in competitive retail markets, DisCos will initially remain natural monopolies for residential and small commercial customers, at least with respect to the horizontal distribution market.[243] Following California's approach, to date every

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239. Act of September 23, 1996, ch. 854, 1996 Cal. Legisl. Serv. ch. 854, at § 1(d) (West) (A.B. 1890, codified in scattered sections of CAL. CODE) (restructuring of public electric utilities) (available in Westlaw database CA-LEGIS-OLD).

240. N.H. REV. STAT. ANN. § 374-F:3 V (1997).

241. *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* Simpson, *supra* note 108 (noting that Illinois' restructuring legislation contains new low-income customer assistance charges).

242. As Vernon Smith has argued, however, joint ventures may work to solve this problem. *See* Smith, *supra* note 227.

243. *See* FOX-PENNER, *supra* note 71, at 88 (citing recent reports by FERC and the Office of Technology Assessment, as well as the conclusions of Joskow & Schmalensee, *supra* note 135).

state retail wheeling plan treats power distribution in this manner by defining a de jure monopoly for distribution,[244] subject to fairly traditional regulation, effectively defining a new regulatory compact that is limited to power distribution.[245]

Further, to date every state that has seriously considered moving to retail competition in the sale of electricity has determined that the DisCo must provide a "basic service" option to those who do not choose an alternative supplier for electricity, are refused service by a retail supplier, or have been disconnected.[246] In some states, this 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 small residential customers.[247]

For example, according to Vermont's retail competition restructuring order, "exclusive franchises for distribution" remain necessary.[248] 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."[249] 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."[250] This service "[m]ay be priced either to float with the spot market or

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However, not everyone agrees. *See* Smith, *supra* note 227. As I suggest below, some degree of competition in power distribution will likely evolve. *See infra* Part IV.C.

244. FERC's Order No. 888 offered a seven-factor test for distinguishing between distribution facilities and transmission facilities. According te FERC, local distribution facilities:

1) are within close proximity of retail customers;
2) are primarily radial in character;
3) have power flowing into them, but rarely have power flowing out;
4) do not reconsign or transport power on to some other market;
5) allow for consumption of power that has entored their systems within a comparatively restricted geographic area;
6) rely on meters to measure flows;
7) are reduced voltage.

See 61 Fed. Reg. 21,540, 21,620 (1996) (codified at 18 C.F.R. pts. 35 & 385).

245. For discussion, *see infra* Part IV.B.

246. 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 te ensuring service access is similar to the minimum standard of coverage recommended in health care reform. *See* John D. Rockefeller IV, *A Call for Action: The Pepper Commission's Blueprint for Health Care Reform*, 265 JAMA 2507, 2509 (May 15, 1991) (providing recommendations for universal medical coverage).

247. *See, e.g.*, R.I. GEN. LAWS § 39-1-27.3(d)-(f) (1997); *In re* Elec. Util. Indus. Restructuring, Docket No. 95-462 (Main Pub. Util. Comm'n 1996).

248. *In re* Restructuring of the Elec. Util. Indus., 174 P.U.R.4th 409, 434 (Vt. Pub. Serv. Bd. 1996).

249. *Id.*

250. *Id.* at 488.

fixed on a longer-term basis."[251] 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."[252]

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, most state regulators, with little or no analysis, 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 and the mobilization of interests likely to support imposition of new service obligations, the economic efficiency rationales for continuing to impose an extraordinary service obligation on the incumbent utility require reassessment.

Consider, first, the economic rationales for imposing service extension obligations. Because the DisCo maintains a horizontal monopoly with respect to rights of way and essential network facilities, most customers will continue to require its distribution service. 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 imposing upon the DisCo an obligation to provide service and spread the costs may maximize social welfare. Even in a competitive retail market, economic efficiency rationales for requiring the DisCo to extend its distribution network to customers seem relevant. 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 requiring the DisCo to assume some distribution service extension obligation, economic analysis does not necessarily 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

251. *Id.*
252. *Id.* at 427.

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.

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-à-vis the customer.[253] In deregulated power markets, however, the long-term contract analogy, which 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 below cost, as often applied under rate regulation.[254] 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.[255] This cost sharing advantage, however, is significantly reduced in a competitive market in which 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.

Despite these structural and regulatory differences between a competitive market and the traditional regulated industry, some efficiency arguments support imposition of a service continuation obligation on the DisCo or other suppliers in a competitive environment. First, 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. In certain areas, technology may necessitate some DisCo service continuation obligation.

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253. *See supra* Part II.C.2. Of course, to the extent that utility risk-bearing is desirable, a cost spreading rationale applies as well.

254. *See supra* note 113 and accompanying text.

255. *See supra* note 155 and accompanying text.

A second rationale for imposition of a service continuation obligation is that 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 immediately possess the knowledge or experience to react to this information when some action, 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 especially be true as these markets initially evolve and as regulators embark on the task of educating consumers.

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 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 because 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.[256] Thus, imposition of a service continuation obligation, even in a competitive mar-

256. *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. LEGAL STUD. 283 (1995) (stating that the laws that restrict contractual freedom are desirable because they deter the risky behavior encouraged by the welfare system).

ket, might be seen as a way of reducing the costs of other public welfare programs.

Though some 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, because with retail competition, the market facilitates many of the transactions which the traditional public utility previously coordinated within a single, vertically integrated firm. Weaknesses with the economic efficiency rationales for the traditional duty to serve aside, to the extent regulators continue to adhere to the constituent obligations of the common law duty to serve, they will also likely need to articulate non-efficiency justifications, such as fairness or distributive justice. 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 sometimes built into utility tariffs on a voluntary basis.[257]

To the extent a duty to serve continues to apply to the industry, for whatever reasons, competitively priced retail power markets will work to minimize many of the price distortions of cross-subsidization historically associated with extraordinary service obligations. Under a rate regulation regime, utility service obligations were paid for through cross-subsidization, but rate regulation helped to minimize the market distortions caused by this practice. Utilities generally were not opposed to taking on 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 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.[258]

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257. *See supra* note 241. For reasons discussed *supra* Part II.C, regulated utilities did not face disincentives for assuming these obligations, as their cost could easily be recovered through regulated rates.

258. Of course, not all DisCos are willing to accept the service obligations absent some compensation guarantee. *See* George R. Pleat, *Should Metering Stay at the Stand-Alone Disco*, PUB. UTIL. FORT., Feb. 1, 1998, at 44 ("The most dangerous position for the disco would be as

Most DisCos are attempting to cover some or all of the cost of extraordinary access (along with the costs of environmental programs) through an SBC for which the retail customers who have power delivered via the distribution system pay. FERC has observed, "the authority of state commissions to address retail stranded costs is based on their jurisdiction over local distribution facilities and the service of delivering electric energy to end users."[259] So long as states are regulating distribution service, there is some basis for a state-imposed charge and it is unlikely that this will be preempted under the Federal Power Act.

While imposition of extraordinary service obligations on the DisCo is a common and noncontroversial element of each state retail wheeling plan to date, its implementation poses new problems for regulators. First, is limiting imposition of extraordinary service obligations to the DisCo the best way to ensure an efficient power supply, or should regulators attempt to find ways to shift some of the extraordinary service obligations to power suppliers or marketers? Second, absent the traditional levels of vertical integration, how is the DisCo to obtain basic service power and ensure reliability for incumbent customers? Will it have an obligation to provide power supply from generators it owns or operates, or should the DisCo have some other mechanism for shifting the risk of supply shortage to power suppliers or others? If the former should be the case, residential and small commercial customers are unlikely to see many of the benefits of retail competition. However, because DisCos may have little notice of power needs—and no time to notify suppliers—it may be a challenge for them to plan for reliable power. Third, and most important, how will service obligations be paid for? Structuring this SBC is likely to be the subject of rate design debate, but in the long run the SBC will become unworkable if power distribution becomes structurally competitive. Regulators, then, will be required to look to alternative financing mechanisms for consumer access.

B. Refin(-anc)ing the Duty to Serve to Fit Competition in Emerging Retail Power Markets

Study of the state retail competition plans to date suggests that the scope of extraordinary service obligations and their financing

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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.").

259. New England Power Co., 75 F.E.R.C. (CCH) ¶ 61,356 n.14 (1996).

will be tantamount to the widespread success of retail competition.[260] The most controversial questions are who will bear the responsibility for providing basic service; how, if at all, will those providing basic service be regulated to avoid anti-competitive conduct; and how will basic service be financed?

Several institutional arrangements have already been considered by regulators addressing these questions: First, regulators can require all suppliers or retailers to set aside a portion of their power to provide a pool of basic service; second, regulators or courts can apply the telcom model to the DisCo, choosing suppliers for the provision of basic service via a ballot system; third, regulators can assign basic service obligations to power suppliers following a competitive bidding auction conducted under regulated terms; fourth, as some consumer advocates have suggested, regulators could assign the obligation to power suppliers in proportion to their market share, similar to residual assignment of risks in insurance markets. This Part addresses the risks and costs associated with these proposals as alternatives for providing reliable service to small residential customers of electricity.

As I shall argue, while all of these approaches are operationally feasible for maintaining residual service levels adequate to serve residential and small commercial customer DisCo service obligations, each poses some significant economic costs for emerging power markets. Thus, as an alternative proposal, I suggest imposition of a duty to serve in the form of a basic service obligation on the DisCo, which could then voluntarily procure its own power—a proposal recently adopted in New Hampshire. Voluntary DisCo procurement, if financed through an SBC and coupled with unbundling or mandatory participation in a PoolCo power exchange, such as California's, is the most efficient structural alternative for ensuring efficient, reliable power for residential customers. As compared to its alternatives, voluntary DisCo procurement holds promise for promoting economic efficiency in electricity service, as well as in other competitive retail

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260. One consumer advocate notes that customers are unwilling to participate in new natural gas markets without some assurance from regulators that they will be protected:

> Besides the meager financial incentive for a New York residential customer to switch gas companies, there is another factor contributing to the slow headway being made by gas marketers: The New York Public Service Commission failed to establish a level playing field with just and reasonable terms of sale. Instead, the commission built a two-tier system allowing degraded competitive service lacking in protection for customers.

Norlander, *supra* note 2, at 8.

markets for traditional public utility services, while also passing through these efficiencies to the average consumer.

1. A Mandatory Power Supply Pool: Applying Extraordinary Service Obligations to Suppliers or Marketers of Power

A recent analysis of the tension between the traditional duty to serve and competition in electricity, commissioned by the Department of Energy, notes that "the extent to which an obligation to serve attaches, as well as the definition of what precisely that definition entails, will depend upon which part of the industry—distribution or generation—is being addressed."[261] That analysis maintains, however, that "[a]ffirmative obligations should attach to each part of the industry."[262] According to this analysis, extraordinary service obligations should attach to both generators and DisCos, and possibly to marketers or brokers of power.

One mechanism to ensure adequate power supply for a DisCo to meet its basic service obligation is to create a basic service power supply pool. Pursuant to this approach, each GenCo that wishes to compete for basic service—including the DisCo, if it owns or operates generation—would be required to commit a portion of the power it produces to this pool; the DisCo, in turn, could draw from this pool to meet basic service needs. The mandatory supply pool has the advantage of providing a reliable source of power to meet basic service needs, and it assists the DisCo in meeting its service obligations in competitive retail markets. The idea behind the mandatory supply pool is to unbundle DisCo-supplied power from distribution service, avoiding some of the incentives generation-owning DisCos may have to sell customers their own power rather than encouraging customer participation in the competitive power supply market.

So conceived, though, the mandatory supply pool has several drawbacks from an efficiency perspective. The mandatory basic service supply pool would provide no opportunity for basic service customers to participate in the market; basic service customers would purchase power from the DisCo. The DisCo may acknowledge the basic service pool on the customer's bill, but there would be no way to identify the specific supplier of the customer's power. Thus, the mandatory power pool would do little to educate customers as to the benefits

261. COLTON, *supra* note 12, at 45.
262. *Id.*

of retail competition or to encourage customer participation in competitive power supply markets.

A second problem with the mandatory basic service pool is that it risks price distortion in the power supply market. Because power suppliers would be required to contribute a portion of power to the pool, the pool would effectively create a secondary market for power. As is discussed below, this market could succeed if power were priced based on the spot market for power, but establishing a supply pool without setting up an appropriate market exchange would contribute to high levels of volatility in basic service prices. Alternatively, if the price for basic service pool power is fixed or regulated, this could work to distort the primary power market or encourage customers to engage in strategic gaming, leaving the DisCo's system whenever market prices are significantly lower than the price of basic service.

A final problem with the mandatory supply pool, so conceived, is that it extends a portion of the power service obligation to power suppliers. This issue is likely to be highly contested in the states in the coming years, as states begin to license new power suppliers in proceedings that will differ from traditional certificate of convenience and necessity proceedings where a franchise area has been defined.[263] Some states are likely to require, as a condition to issuance of the license, commitment to extraordinary service obligations by the generator. In fact, some states have already built extraordinary power supply obligations into their restructuring plans. For example, Illinois' restructuring legislation makes perhaps the strongest extension of extraordinary service obligations to power supply markets. In Illinois, prior to participating in the competitive retail power market, power suppliers must certify to state regulators that they are willing to serve the portion of the incumbent utility's customers that they are proposing to displace, essentially agreeing to maintain the incumbent utility's service obligations.[264] Yet power supply is a structurally competitive market; bilateral contractual relationships between suppliers, customers, marketers, and brokers establish obligations to

263. *See In re* Electricity Generation Customer Choice & Competition Act—Licensing Requirements for Elec. Generation Suppliers, 176 P.U.R.4th 25, 28 (Pa. Pub. Util. Comm'n 1997) (requiring generators, marketers, and brokers wishing to supply services in Pennsylvania to apply for a license, but leaving universal service issues for regulators to address "as they are appropriate in future Commission proceedings"); *see also N.J. Bill Would Require Suppliers to Set Up Offices*, MEGAWATT DAILY, Jan. 21, 1998 (observing that the New Jersey bill requires, as a condition to licensing, setting up a staffed office within the state and providing bonds to ensure financial viability).

264. *See* H.R. 362, 90th Gen. Assembly, 1997-98 Regular Sess. (Ill. 1997); Electric Service Consumer Choice and Rate Relief Act of 1997, H.B. 362 (act effective Dec. 16, 1997), at § 16-115 (to be codified at 220 ILL. COMP. STAT. 5/16-115).

provide service or pay damages, so the economic efficiency rationales for encumbering this market with a full-fledged unilateral duty to serve are weak. None of the horizontal integration rationales for a service obligation, relating to network efficiencies, apply to suppliers. The DisCo is likely to be a superior risk-bearer than suppliers, because it has better information about its customers' needs and is therefore better-positioned to meet customer needs by participating as a wholesale buyer of power on long-term contract and in the spot and futures markets. It is also in a better position to recover the costs of basic service from its customers.

In addition, some states also provide that brokers and marketers, or RetailCos, are subject to service obligations. For example, Vermont, in its restructuring order, imposes upon the DisCo a service continuation obligation. According to the Vermont order, "[a]t this time, we propose that disconnects should be permitted only when customers have failed to pay their Disco charges, including charges associated with the Disco Basic Service Offer."[265] With respect to disconnection, the Vermont Pubic Service Board determined that service should not be disconnected for nonpayment of a RetailCo's bill, but that RetailCos are required to notify both the DisCo and retail customer prior to service discontinuation.[266] Consumer advocates in New York have taken a more aggressive position in the emerging retail natural gas markets, suing the state Public Service Commission to require it to subject gas marketers to service obligations as "gas corporations" subject to the full range of utility service obligations under New York's consumer protection laws.[267]

Yet, unlike power distribution, multiple brokers and marketers will not likely serve a single geographic area, and customers will have some selection of brokers and marketers. Basic service is intended as a default—a fall back option—for customers who opt not to participate in the power supply market. As with power supply markets, encumbering retail marketers or brokers with service obligations will thwart competition in these markets. Although it is unclear exactly

265. *In re* Restructuring of the Elec. Util. Indus. in Vermont, 174 P.U.R.4th. 409, 465 (Vt. Pub. Serv. Bd. 1996).

266. *See id.* "Both the Disco and the retail customer will be notified of a date on which service is to be torminated, at which point service under a Disco's Basic Service Offer shall begin. Retail service providers will be permitted to require reasonable deposits or appropriate credit references before providing service." *Id.*

267. *See* Norlander, *supra* noto 2. New York's PSC explicitly rejected these arguments in Proceeding on Motion of the Comm'n to Address Issues Associated with the Restructuring of the Emerging Competitive Natural Gas Market, Case 93-G-0932, 1996 WL 159878, at *8 (N.Y. Pub. Serv. Comm'n 1996).

how states will regulate RetailCos, such entities will be subject to laws governing deceptive marketing practices and contractual obligations, so regulators need not duplicate this legal structure beyond perhaps requiring the filing of marketer contracts to facilitate monitoring of marketing practices, such as slamming.[268] Compared to marketers and brokers, the DisCo is in a better position to spread the costs of expansion in its service area and to bear the risks and spread the costs of nonpayment or power shortages.

Neither power suppliers nor retail marketing or brokerage firms should be subject to extraordinary service obligations, because the DisCo is in the best position to bear this obligation while also providing competitive power options to its customers. Of course, power suppliers and marketers may need to be subject to state registration, perhaps through a modest licensing procedure, in order to evaluate market practices. However, such a registration system need not, as a term of participation, require the suppliers and marketers to agree to extraordinary service obligations beyond contract and consumer protection laws. To the extent it does, regulators will have imposed a duty to serve on all segments of the industry, regardless of structural market differences.

2. The Telcom Model

Another model for facilitating a DisCo service obligation is to borrow, by analogy, from the approach the Federal Communications Commission ("FCC") applied to local exchange carriers to facilitate the development of the long-distance markets following the breakup of AT&T. The settlement of the Department of Justice's antitrust action against AT&T required AT&T to divest its local Bell Operating Companies ("BOCs") and required the BOCs to provide "equal access"—access "equal in type, quality, and price" to that provided by AT&T and its affiliates—to all long-distance carriers wishing to provide service on local networks.[269] At the time of the settlement, local

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268. Slamming, now a well-known problem in the competitive long-distance telephone market, is the unauthorized switching of service by suppliers. *See* SAUNDERS ET AL., *supra* note 19, at 350-51. Of course, the state regulatery commission may be the best institution to monitor these practices as competitive markets are evolving. To protect against such problems, California has recently adopted new registration rules for all energy service providers, including marketers, aggregators, and brokers, and has provided a procedure for filing customer complaints against these new market actors. *See California Adopts Tough New Registration Rules for All Energy Service Providers*, ENERGY SERVICES & TELCOM REP., Apr. 9, 1998, at 1.

269. *See* United States v. American Tel. & Tel. Co., 552 F. Supp. 131, 227 (D.D.C. 1982). The BOCs could operate within the local market, but could not themselves provide long-distance service. *See id.*

service consumers could access only AT&T as a long-distance provider unless they used a special code, sometimes adding as many as ten digits to their calls.[270] In the court's Modification of Final Judgement, this was found to have a "significant negative impact on competition"[271] and a predesignation system for designating a long-distance carrier was ordered.[272] This system allowed customers to choose a long-distance carrier in advance of their monthly service.[273]

The predesignation system worked well for consumers who affirmatively chose their own long-distance carriers. Initially, the Modification of Final Judgment allowed a local exchange carrier to designate AT&T the long-distance carrier by default.[274] But, in an order issued in response to the anticompetitive allegations of competitors, the FCC found this default practice to be uncompetitive and unfair and implemented a uniform pro rata allocation plan.[275]

Under the pro rata allocation plan, local exchange carriers mailed each customer a ballot to select the preferred long-distance carrier. If a customer failed to select a carrier, one would be assigned on a pro rata basis. This allowed AT&T long-distance competitors greater access to retail customers and encouraged new competition for retail long-distance service. The ballot allocation plan enhanced competition by increasing consumer awareness of services available from the various providers and gave long-distance carriers an incentive to offer a variety of competitive services to attract new customers.

Similarly, in implementing basic service for the competitive retail electricity markets, regulators could mandate that customers choose the provider of basic service via a ballot system, randomly spreading those who have not selected a supplier through the ballot system among suppliers who have registered with the state regulatory authority and who have expressed a willingness to take such customers. As in the telcom context, such an approach would work to enhance consumer awareness of competition and supply competition for retail customers. An advantage of this approach over the manda-

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270. *See id.* at 197 (noting "[l]ong distance calls may presently be placed over the AT&T network by dialing ten or eleven digits while twenty-two or twenty-three digits are necessary to use the facilities of other interexchange carriers.").

271. *Id.*

272. *See id.* at 232.

273. *See id.*

274. *See* United States v. Western Elec. Co., 578 F. Supp. 668, 676 (D. D.C. 1983) (allowing "each operating Company to route to AT&T the calls of any customer who . . . has failed to make a selection of an interexchange carrier").

275. *See In re* Investigation of Access and Divestiture Relatod Tariffs, 101 F.C.C.2d 911, 915 (1985) (stating that default is unreasonable and against public interest because it favors one long-distance carrier over another without a showing of necessity).

tory power supply pool is that it allows customers to see changes in suppliers on their bills, thus educating them about the nature of developing power markets.

Yet, as is well-recognized today, the experience of developing long-distance markets under the ballot allocation mechanism in the telcom context had disappointing results. Following the implementation of balloting, eighty percent of customers that made a selection chose AT&T, ten percent chose MCI, and four percent chose Sprint, leaving AT&T the dominant firm with approximately seventy percent of the total market.[276] Despite the pro rata allocation policy, AT&T was able to reap enormous benefits at the onset of competition because of recognition of its brand name and the continued existence of price regulation.

Despite this problem with AT&T's market share, which since has declined further, the ballot and spread approach may be an improvement over a mandatory basic service supply pool. One advantage is that customers, to the extent they read their power bills, may see a change in supplier, and thus may learn something about the availability of choice in the market. However, to implement the ballot and spread approach to supply allocation in retail electricity markets, regulators will need to address pricing of power selected via ballot or allocated via market share. In addition, in the electricity context, the issue of power deficiencies must be addressed: in the case of a shortage, or of a supplier not meeting its pro rata obligation, does the DisCo have an obligation to make up power deficiency, or will that obligation lay with the supplier? If the former, the DisCo is required to hold in reserve a portion of the power it generates, favoring DisCo power over competitively supplied power for basic service and reducing the ability of DisCo-owned generation to compete in power supply markets. If the latter, this approach, like the mandatory pool, will extend some of the service obligation to power supply markets, risking distortion of the competitive power supply market.

3. DisCo Competitive Bidding with Cost Pass-Through

An alternative approach to meeting basic service obligations, adopted by Vermont and Rhode Island, is to mandate that the DisCo arrange, by bid, for basic service from one or more retail suppliers.

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276. *See* Kerry Diehl & Rich Gillman, *Why Your Customers Switch: Loyalty May Depend More on Age Group Than Anything Else*, PUB. UTIL. FORT., Apr. 15, 1997, at 37, 39 (tracking customer intent and loyalty); *see also* Peter W. Barnes & Richard Koenig, *GTE's Sprint Expected to Feel Pressure from Challenge Posed by IBM-MCI Link*, WALL ST. J., June 27, 1985, at 2.

This requires the DisCo to assume responsibility for arranging the service, but customers here would also see a change in the electricity supplier on their monthly bills.

For example, the Vermont restructuring order provides that the Basic Service Offer, provided by DisCos, "may be provided through an affiliated retail service company. This will be possible provided that its rates are determined through an open, competitive bidding process managed by the distribution company or through some other appropriate market-based determination (ultimately, reviewed by the DPS and Board)."[277] As a general manner, Vermont DisCos are not permitted to own interests in generation, but DisCos may own interests in generation to meet their basic service offer—to ensure that customers have at least one power choice.[278]

Rhode Island has adopted a more explicit bidding approach. As a part of its Standard Offer for customers who have not opted to enter into power supply arrangements with unregulated suppliers, DisCos are required to arrange for a "last resort" power supplier.[279] Rhode Island requires each DisCo to "periodically solicit bids from nouregulated power producers for such service at market prices plus a fixed contribution from the electric distribution company."[280] Bids requiring the "lowest fixed contribution" from the electric DisCo are required to be accepted, and acceptance of bids for last resort service are subject to approval by the Rhode Island Public Utilities Commission, which determines the terms and conditions for last resort service.[281] However, DisCos may discontinue service in a manner consistent with Commission policy in the event of nonpayment for service.[282] In Rhode Island, last resort service is partially subsidized by other DisCo customers.[283]

Under such a bidding approach, the DisCo acts as an agent for the customer and passes through in the SBC the costs of electricity charged by the winning bidder. The distribution company, acting in such a capacity, would likely be subject to a fiduciary responsibility to provide customers the best deal given the offer accepted in response to

277. *In re* Restructuring of the Elec. Util. Indus. in Vermont, 174 P.U.R.4th 409, 427 (Vt. Pub. Serv. Bd. 1996).

278. *See id.* at 434.

279. R.I. GEN. LAWS § 39-1-27.3(f) (1997).

280. *Id.*

281. *Id.*

282. *See id.*

283. "All fixed contributions and any reasonable costs incurred by the electric distribution company in arranging this service shall be included in the distribution rates charged to all other customers." *Id.*

the bid. Under such an approach, it is likely that, as in Rhode Island, a regulatory body would need to oversee the bidding process and mandate the terms for basic service, including extension, billing, and rate design.

One advantage of this approach is that even basic customers can see the results of competition. If basic service pricing options were not responsive to customer needs, customers could still pursue other options, although some customers may be required to pay a penalty.[284] At the same time, to the extent regulators are successful in policing bidding, this option would not provide the incumbent utility or its retail sales affiliates any unfair advantages.

Yet with this approach an issue regulators must address is how prices will be determined. Some states that have considered it, such as Rhode Island, have attempted to link the provision of basic service by the DisCo with the prices charged customers at the time retail competition commences. This reflects the reduced prices of competition, but the price cap is a relic of rate regulation likely to raise problems in the future.[285] Other states go further, continuing to allow rate regulation of DisCo basic service.[286]

A further issue that must be addressed with the bidding approach is the degree of continued regulatory oversight of power supply markets. To the extent regulators continue to evaluate the ability and cost of alternative suppliers vying for basic service contracts, a potential for introducing distortions into power markets will exist. In addition, bidding contracts, once signed and approved, may require suppliers to hold power in reserve for basic service, reducing the amount of power in competitive supply markets, or may lock regulators into above-market prices pursuant to long-term contracts.

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284. In Rhode Island,

> [n]o customer who initially elects the standard offer and then chooses an alternative supplier shall be required to pay any withdrawal fee or penalty to the provider of the standard offer unless such a penalty or withdrawal fee was agreed to as part of the contract; however, no residential customer shall be required to pay a penalty or withdrawal fee for choosing an alternative supplier.

Id. § 39-1-27.3(d).

285. Price caps, of course, go largely unrecognized when supply is adequate. However, should there be a severe short- or long-term shortage in generating capacity, causing a rise in prices similar to the oil crisis of the 1970s, price caps will contribute further to the shortage and will likely need to be reassessed.

286. *See In re* Competition in the Provision of Elec. Servs., 175 P.U.R.4th 1, 11, 14 (Ariz. Corp. Comm'n 1996) (noting that the standard offer and SBC will be rate regulated); *see also In re* Guidelines for Universal Serv. and Energy Conservation Programs, 178 P.U.R.4th 508, 511 (Pa. Pub. Util. Comm'n 1997) (initiating development of a mechanism for DisCos to recover "appropriate" universal service and energy conservation program expenditures).

4. Simple Market Share Allocation

A model statute proposed by Barbara Alexander and the National Consumer Law Center ("NCLC") modifies the bidding approach with the hope of improving implementation of the "ballot and spread" approach.[287] The model statute requires DisCos to conduct bids annually, subject to oversight by a regulatory commission, which determines the minimum requirements for basic service and approves selection of a supplier. It also authorizes the regulatory commission to initiate a program that randomly assigns customers to approved retail suppliers when, in the commission's judgment, "there are sufficient retail electric suppliers willing to accept such customers and the retail market for the sale of electricity is sufficiently robust and enjoys a high degree of satisfaction with a majority of customers."[288] However, even if this "ballot and spread" approach is adopted, basic service continues under the commission-regulated competitive bid.

Under the model statute, bad debt expense in excess of the amount negotiated in the contract between the DisCo and supplier is included in the DisCo's costs and becomes a part of the SBC imposed on all customers. In other words, all DisCo customers, through the DisCo access charge, subsidize the costs associated with nonpaying customers. Regulatory commissions, under this proposal, will regulate the conditions under which customers can be disconnected from basic service. The NCLC model statute allows consumers, after opting to select among competitive power suppliers, to come back to basic service but imposes a penalty for consumers that do this more than once every twelve months as a disincentive for playing the market.[289]

While well intentioned, the basic service provisions of the NCLC model statute pose several efficiency problems.[290] First, as with the commission regulated bidding approach, the NCLC statute involves regulators in a determination of power needs for basic service and facilitates subsidization of some of these power supply costs, including reserves, by DisCo customers who are not taking basic service. However, there is no reason for regulators to make these determinations in competitive power supply markets. Instead, the DisCo,

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287. CONSUMER PROTECTION PROPOSALS, *supra* note 19, at 32.

288. *Id.* at 88-89.

289. This penalty is not applicable to consumers who have been denied credit or who are disconnectod by any retail supplier; the model statute also allows the commission to exenipt low-income consumers from any penalty or fee for selecting basic service.

290. As a redistributive measure, the statute also attempts te fund universal service programs through a fee levied against all suppliers. *See* CONSUMER PROTECTION PROPOSALS, *supra* note 19, at 91.

which, out of physical necessity, is the provider of last resort power, will have superior information about residential power needs and is in an excellent position to bear the risks of an increase in basic service demand, recover costs through the SBC, and avoid the costly errors that could be introduced by regulators' inaccurate prediction of power supply needs. Further, as with other proposals, cross-subsidization of basic service power supply by other DisCo customers is likely to introduce several distortions into the pricing of retail power markets, and may work to fragment retail power markets away from DisCos with large basic service customer classes, as larger customers bypass the DisCo's system.

Second, as with the telcom proposal, the service obligation can be extended to unregulated power suppliers or marketers, which may be allocated responsibility for contributing power to the basic service pool based on market share or a random measure. However, in unregulated power markets, power suppliers will not have very accurate information about customer needs; instead, the DisCo, which is the supplier of last resort, will have superior information about customer demands at various times. It may prove inefficient for regulators to extend the service obligation to suppliers, because suppliers are no longer natural monopolies; yet, under such an approach, the DisCo, by long-term bidding contracts, may be able to extend some of this obligation to suppliers or marketers. Compared to power suppliers, the DisCo is the superior risk-bearer of an increase in basic service demand and is also in the best position to spread the costs of basic service. Any deficiency in basic service can be made up by DisCos entering into additional long-term requirements contracts or purchasing power on the spot market.

5. Limiting the Obligation to the DisCo While Avoiding Strategic Supply Problems and Ensuring Adequate Supply

The mandatory supply pool, telcom, competitive bidding, and market share approaches each attempt through regulation to extend some of the service obligation to power suppliers or marketers. To police against slamming and other consumer abuses, particularly those associated with informational problems in power markets, suppliers and marketers are—and should be—required to register with the governing body in states which have adopted retail wheeling legislation or regulations. Yet, power supply and marketing have been recognized to be competitively structured, or at least contestable. This suggests that the imposition of extraordinary service obligations

on these industry actors will lead to costly distortions in power supply markets. Unlike the DisCo, which every state continues to regard as a natural monopoly, none of the natural monopoly rationales in favor of imposing a duty to serve apply to suppliers or marketers. Thus, as I have argued, because of structural differences between the DisCo and markets for other electricity services, the economic efficiency rationales for continuing to apply a duty to serve to GenCos or to RetailCos are weak.

An alternative approach imposes the service obligation entirely on the DisCo, which assumes the entire burden of the duty to serve and, along with it, an obligation to procure competitive power supply to meet basic service needs. New Hampshire adopted an approach similar to this in early 1997. Under the New Hampshire Public Utilities Commission's new restructuring regulations, "[t]he utility's current obligation to provide electricity will be replaced with an obligation of the regulated distribution company to connect and deliver electricity for all customers requesting such service."[291] The New Hampshire Commission considered, but rejected on a trial basis, a DisCo standard offer service provided by affiliate generators. Instead, it required a default basic service which is competitively procured and not price regulated, but priced on the competitive market.[292]

As the New Hampshire Commission reasoned, "[o]ur vision of default service is consistent with the development of a competitive marketplace. The continued provision of a fully regulated service option, as proposed by the various proponents of standard offer service, fails to accomplish that result."[293] It remains to be seen how active a role the New Hampshire Commission will play in evaluating a DisCo's basic default service. Certainly, to the extent DisCos own generation affiliates, the Commission will have a role in evaluating potential affiliate abuses, but the idea of default service is to minimize Commission involvement in the DisCo determination of basic power needs.

Allowing the DisCo to assume the entire duty to serve in retail power markets has a strong basis in economic efficiency. The DisCo, as the provider of last resort power, has superior information about residential and small commercial customer needs. It is in the best position to enter into additional long-term contracts, if necessary, or to obtain additional power for customer needs from power spot mar-

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291. *In re* Restructuring New Hampshire's Elec. Util. Indus., 175 P.U.R.4th 193, 249 (N.H. Pub. Util. Comm'n 1997).

292. *See id.*

293. *Id.* at 250.

kets. The obligation to take these affirmative steps can be measured against the standard of "best efforts," a contract principle courts normally impose when a single party controls the instrumentality necessary to achieve a cooperative goal.[294] The DisCo is also in the best position to take the risks of price differences between the spot and long-term contract power supply markets. If a DisCo offers basic service at a price exceeding the spot market price, it will risk losing basic service customers to other suppliers. Thus, to the extent the DisCo assumes the entire obligation for basic service, it will face incentives to keep basic service rates as close as possible to the spot market prices. Further, to the extent that there are costs associated with the duty to serve, the DisCo can best spread these across similarly situated customers through an SBC without creating upstream market distortions.

For example, non-basic service customers may be charged a portion of basic service costs through the SBC. The DisCo is in the best position to spread such costs through an SBC among customers while also keeping distribution rates low. If the SBC is too excessive, the DisCo risks losing larger customers, who might choose (perhaps with the assistance of suppliers, marketers or brokers) to build direct transmission facilities or to self-generate.[295] State retail wheeling plans might attempt to minimize these customer losses through an exit fee,[296] but so long as the exit fee is greater than the incremental costs to a customer from cross-subsidization, the DisCo continues to face incentives to provide low-cost access to larger customers without losing a significant customer base and leaving small commercial and residential customers with the entire cost of its service obligation. A

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294. *See* COLTON, *supra* note 12, at 49; *see also* Charles Goetz & Robert E. Scott, *The Mitigation Principle: Toward a General Theory of Contractual Obligation*, 69 VA. L. REV. 967, 985, 1015-16 n.126 (1983) (discussing the implied obligation te use best efforts to mitigate). *See generally* E. Allan Farnsworth, *On Trying to Keep One's Promises: The Duty of Best Efforts in Contract Law*, 46 U. PITT. L. REV. 1 (1984) (exploring situations in which parties are held to an express or implied duty te use best efforts).

295. Similarly, following the enactment of FAIR plans, competitive insurance companies sought to insure the "best" insurance risks while dumping remaining risks into the public market. *See* John Hugh Gilmore, Note, *Insurance Redlining and the Fair Housing Act: The Lost Opportunity of* Mackey v. Nationwide Insurance Companies, 34 CATH. U. L. REV. 563, 579 (1985) (discussing how the FAIR plans failed to make insurance available te all "insurable risks").

296. In contrast to the SBC, an exit fee is a one-time tax, paid by the customer leaving the system. It can be combined with a return charge to cover costs associated with customers returning to the distribution system after exiting. Because exit fees, if appropriatoly set, will facilitate cost spreading, proposals to prohibit exit fees, such as Representative Delay's restructuring bill, may be inconsistent with an efficient power supply market providing universal customer access. *See* H.R. 4297, 104th Cong. § 3(b) (1996) (banning exit fees and subsidies, but excepting financing of certain default services).

DisCo duty to serve, subsidized by an SBC with an exit fee, can be efficient so long as power distribution service remains a horizontal natural monopoly.

Of course, some effort must be made by regulators to ensure that a DisCo which owns generation does not act in an anti-competitive manner that discourages customer participation in power supply markets or favors its own power supply in basic service provision. To address such concerns, some states envision structural unbundling by prohibiting DisCo use of affiliate power to meet basic service needs or limiting the amount of affiliate power a DisCo can use to meet basic service demand.[297] Presumably, such prohibitions and limits are designed to rectify the potential costs of DisCo ownership or control of generation, a competitive market, while the DisCo also owns or controls transmission to the customer. However, such limitations can work to distort the power supply market by limiting the range of power supply options available to DisCos and, ultimately, may risk harming consumers with higher rates.

When a DisCo owns or controls power generation, there is clearly a potential for DisCo affiliate abuse or gaming in the provision of supply to meet basic service needs. The alternatives regulators have considered are designed to mitigate some of these problems. One approach, often advocated, is to require structural unbundling achieved by divestiture of power generation by utilities also owning distribution facilities.[298] New Hampshire, for example, has required divestiture of generation assets as the most effective way to address vertical market power concerns.[299] Of course, mandatory divestiture, to the extent it results in economic losses, may be the subject of takings challenges.[300] Even when divestiture is mandated and survives legal challenge, some distribution utilities are finding it prudent to

297. New Hampshire's final plan, for example, requires utilities that want to serve the distribution market to sell off their generation assets by the year 2000. *See In re* Restructuring New Hampshire's Elec. Util. Indus., 175 P.U.R.4th 193, 249-50 (N.H. Pub. Util. Comm'n 1997).

298. *See Transition*, *supra* note 194, at 323; *see generally* Charles G. Stalon & Reinier H.J.H. Lock, *State-Federal Relations in the Regulation of Energy*, 7 YALE J. ON REG. 427 (1990).

299. *See In re* Restructuring New Hampshire Elec. Util. Indus., 175 P.U.R.4th at 249.

300. Like regulators' failure to allow complete stranded cost recovery, utilities might claim that mandated divestiture without just compensation is an unconstitutional taking. For the arguments, see *Deregulatory Takings*, *supra* note 3 (observing that deregulation of utility industries may constitute unconstitutional takings under the Supreme Court's takings jurisprudence). *But see* Williams, *supra* note 3, at 1006 (observing that Sidak & Spulber's takings analysis "may not map perfectly onto the Supreme Court's previous analyses."). Cases addressing the issue to date reject the takings challenge to regulators' failure te guarantee recovery of stranded costs. *See, e.g.*, *In re* Energy Ass'n v. Public Serv. Comm'n, 169 Misc.2d 924, 935 (N.Y. Sup. Ct. 1996).

explore selling generation.[301] With complete vertical disintegration, which may occur in some markets, the potential for DisCo abuse or gaming in the requisition of basic service power will be minimal.

Nevertheless, even absent complete vertical disintegration, unbundling of DisCo power sales and procurement can be achieved financially through requiring DisCos with generation to bid into the 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 under competitive bidding, because mandatory bidding into a power exchange facilitates decoupling DisCo basic service power purchases from power sales. Under such an approach, the DisCo has an adequate incentive to purchase from the exchange the lowest cost power, 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 DisCos, to be financed through an SBC, can work to simultaneously facilitate the development of robust power supply markets and pass the new efficiencies of these markets on to cousumers without sacrificing access goals.

C. Paying For Universal Service in a Competitive Distribution Environment

As long as distribution service is a natural monopoly, the duty to serve can be financed through an appropriately structured SBC imposed upon retail customers by the incumbent distribution company. The SBC is likely to pose new rate design issues for customers

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301. This is true even in states, such as Florida, that have yet to move forward with formal state-wide restructuring plans. For example, Tallahassee, Florida, which owns a distribution utility and 490 MW of power generation hut uses profits from electric and gas sales to pay for 32 percent of city services (including fire, police and parks), has evaluated whether to sell its generation assets. *See Florida Muni, Eyeing Deregulation, Considers Partners, Privitization*, ELECTRIC UTIL. WK., Dec. 15, 1997, at 14.

and regulators,[302] but it is a plausible short-term financing mechanism for continuing extraordinary service obligations in competitive retail markets.

Despite efforts to maintain the de jure monopoly status of power distribution, though, in the long run competition may prove inevitable 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. Some have suggested that power distribution may ultimately become a competitive or contestable industry.[303] To the extent these developments occur, the ability of a single DisCo to recover the costs of its extraordinary service obligations through an SBC for a geographic area will be weakened significantly.

With the growth in micro-generation, increasingly feasible with current technology, the number of customers dependent upon networked distribution is likely to decline. Through its very presence, the availability of generation alternatives for a larger range of customers works to make power distribution competitive, regardless of its legal status, as more customers will face the possibility of feasible substitutes. For example, Capstone Turbine Company, a small generation company in California, is building remarkably efficient power generators that run on jet engine technology; they cost about half as much per kWh as the typical coal plant, and are likely to prove feasible for small stores, restaurants, and farms that wish to generate their own power.[304] Despite the presence of de jure monopoly in power distribution, the availability of self-owned power supply for small- to medium-sized electricity customers will work to introduce de facto competition, as has existed for years for larger industrial customers. The current power generation and distribution industries may be set

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302. For example, in Pennsylvania, regulators rejected an SBC design that applied to all customers on a kWh consumption basis, because it was seen as too burdensome to high load customers. *See In re* Guidelines for Universal Serv. and Energy Conservation Programs, 178 P.U.R.4th 508, 522 (Pa. Pub. Util. Comm'n 1997) (stating the goal "in establishing payment ranges is to maximize customer payments [and to] maintain affordable payments").

303. 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* noto 227.

304. *See* 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.

for a future similar to the current main frame computer industry, which has been seriously threatened by the desk top personal computer industry.

Further, though not presently imminent, pressures for dismantling the monopoly of power distribution are likely to evolve as retail supply markets become robust. At a minimum, power distribution will eventually be considered contestable and may well be a competitive market. For example, large customers, some of whom currently bypass DisCos individually, may combine their power subsidiaries into joint venture or other alliances with phone or cable companies to finance power distribution.[305] Over the long run, it may be inevitable that these distribution joint ventures will begin to compete with the incumbent DisCos. Although in the short run the risks of increasing average distribution costs for all customers can be minimized through appropriately set exit fees, over the long run various DisCos are likely to compete for the same geographic area.[306] Even where DisCos are not in direct competition, larger customers may be able to avoid contributing to the costs of basic service by building their own lines. In the telecommunications context, for instance, large toll business customers have been able to avoid the universal service obligations implicit in access charges by turning to competitive access providers, whose services may be profitable even when their costs exceed those of the incumbent local exchange carrier.[307] Thirty years ago, Harold Demsetz observed that the history of utilities has been characterized by competition for service areas.[308] As electricity supply becomes competitive it is likely that there will be enhanced

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305. As Clyde Wayne Crews, Jr. observes, the key to competition in utility distribution markets will be access to potentially exploitable alternative rights of way, from companies including cable television providers, phone companies, private railroads, and water and sewer lines. *See* Clyde Wayne Crews, Jr., *Electric Utility Reform: The Free Market Alternative to Mandatory Open Access*, ELECTRICITY J., Dec. 1997, at 1. In addition, of course, transmission line siting imposes a significant additional cost for entrants to this market.

306. This is already the case in some areas. There are parallel sets of distribution wires in Lubbock, Texas and 22 other towns, often because of competition between invester-owned and municipal utilities for service territory. *See* Jan Bellamy, *Two Utilities Are Better Than One*, *in* FREE MINDS AND FREE MARKETS 32 (Robert W. Poole & Virginia I. Postrel eds., 1993).

307. The presence of competitive access providers preceded the Telecommunications Act of 1996. *See* Lawrence A. Sullivan, *Elusive Goals Under the Telecommunications Act: Preserving Long-distance Competition Upon Baby Bell Entry and Attaining Local Exchange Competition: We'll Not Preserve the One Unless We Attain the Other*, 25 SW. U. L. REV. 487, 501 (1996).

308. *See* Harold Demsetz, *Why Regulate Utilities*? 11 J.L. & 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)).

competition even for markets regulators define as de jure natural monopolies, such a distribution.

In addition to being inevitable, competition in distribution may also prove desirable, to the extent that uneconomic duplication does not occur. Although incumbent distribution utility access and line fees are more obvious to customers than bundled rates, cross-subsidies remain largely hidden from customer scrutiny within a single distributer market. A movement towards a competitive distribution environment will force a more explicit consideration of the costs and political trade-offs associated with the duty to serve. Competitive distribution markets will also work to minimize power market distortions, by facilitating customer access to power supply without the encumbrance of access, line, and exit fees.

With multiple distribution companies in a single geographic area, financing for the duty to serve must find a source beyond the SBC. Imposing access or line fees on all companies offering distribution services in a given area may provide a financing mechanism. But, to make such a mechanism workable, regulators must also establish a principle for dividing customer service obligations among the multiple distribution companies, taking into account expected future growth for each distribution firm. This is likely to prove a very difficult, if not impossible, regulatory task; to the extent regulators attempt it, it may even result in reaffirmation of the existing de jure monopoly for power distribution based on geographic franchise, despite the existence of competitive market conditions.

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. Because of the potential for self-generation and distribution bypass, a tax on electricity supply, as opposed to power distribution, may prove the most efficient mechanism for financing the duty to serve. As basic service revenues are raised through taxation, they could be redistributed to states, which would implement utility service voucher programs for distribution companies offering a basic service package. In addition, a portion of the tax could be directed to service extension grant programs to provide incentives for power distributors to build, maintain, and upgrade facilities in areas where it is not profitable.

One option is to tax consumers by imposing a direct consumption tax on power users, regardless of the route of distribution. A retail sales tax on kWh consumption, applied on a national basis, would maximize the tax base, since it would apply to all consumers of

electricity. Economic theory suggests that the broader the tax base the smaller the excess burden of the tax. In addition, imposition of a direct consumption tax on power supply allows for revenue collection regardless of the distribution route, effectively providing for revenue even where there is bypass. Of course, to ensure equitable cost sharing, this would need to be coupled with a proportionate tax on self-generation. A disadvantage of this approach, however, is that it is regressive. Put another way, because it applies equally to all sales, the poorest consumers would pay a greater portion of their income than customers with greater wealth.

An alternative, though still regressive, approach is an industry tax, applied to power distributors or suppliers on an *ad valorem* (percentage charge on the value of goods sold) or quantity (e.g., per kWh) basis. As a political matter, a single industry tax may be more feasible than a broad-based electricity consumption tax, because it would be less likely to face widespread consumer opposition. The single industry tax would have lower transaction and administrative costs than the consumption tax. Some, such as Bruce Egan and Steven Wildman, have proposed this as an efficient alternative for financing universal service in competitive telecommunications markets through a value-added service surcharge.[309] In the electricity context, to maximize the equitable sharing of the duty to serve and the tax base, it would make the most sense to impose the tax on power suppliers. As with the retail sales tax, imposition of an industry tax ensures the broadest sharing of the costs and works to avoid the pitfalls of uneconomic bypass. This form of industry tax might be structured to allow DisCos and suppliers to deduct any taxes built into the prices for power supply purchased as an input to the power generation, transmission, or distribution process. Like the consumption tax, such a tax would be imposed at a national level, in order to avoid patchwork inefficiencies as states take different approaches to financing utility service obligations.

The regressive nature of these power supply taxation options is obvious. However, they are no more regressive than traditional util-

309. *See* Bruce L. Egan & Steven Wildman, *Funding the Public Telecommunications Infrastructure, Communications Policy Working Paper #5* (visited Feb. 1, 1998) <http://www.benton.org/Library/FundTelecom/working5.html> (suggesting that alternative Value-Added Service Charges may improve the current system of access charges); *see also* Tony D. Feuerstein, *Redefining the Universal Service Finance Mechanism in the Face of a Local Competitive Marketplace* (Apr. 23, 1995) <http://www.ipps.lsa.umich.edu/econ495/writings/paper/feuerstein.html>. For a more sustained discussion of the issue, see generally BRUCE L. EGAN, INFORMATION SUPERHIGHWAYS REVISITED: THE ECONOMICS OF MULTIMEDIA (1996).

ity pricing and, apart from directing funds raised through progressively-structured national income taxes to pay for universal service programs, they are probably the only feasible financing mechanisms for universal service in competitive distribution markets. In the short run, distribution companies may be able to finance the duty to serve under plans such as those adopted in New Hampshire, but power suppliers will need to share a portion of the costs of the duty to serve as competitive distribution markets begin to emerge. Eventually, the competitive industry will be forced to pay a portion of the costs of the duty to serve, leading to more explicit consideration of the political trade-offs and costs associated with the duty serve.

V. CONCLUSION

Retail competition in most public utility industries, such as telecommunications, natural gas, and electricity, is quickly emerging. With it the laws and regulatory concepts we have invoked to regulate public utilities since the Gilded Age are undergoing a transformation. In electricity regulation, local retail competition is a hot agenda item in many states and, over the next several years, will come to dominate legislative and regulatory agendas. Policymakers and courts will face difficult decisions about how, if at all, the duty to serve should evolve to fit competitive retail markets.

The duty to serve applicable to public utilities, this Article suggests, has been much more rigorous than obligations that attach to other private property or businesses. Should regulators see it appropriate to do so, retail competition poses an opportunity to level these obligations, treating the provision of telephonic, natural gas, and electrical service as any other service in a competitive market. Indeed, this Article suggests, the intellectual framework applicable to natural monopoly will no longer apply to most of the electricity industry, so many of the service obligations based in the assumptions of this framework will need to be revisited. To date, state regulators have maintained the content of traditional utility service. Yet, as the natural monopoly model is abandoned for power supply, continuation of these extraordinary service obligations will require regulators to articulate new intellectual justifications, perhaps in distributive justice or fairness.

Extraordinary service obligations do not need to disappear in competitive retail markets. This Article has suggested that, to the extent society has made a decision to impose extraordinary service

obligations on a competitive electricity industry, the efficiency losses from applying the duty to serve to power distribution utility service can be minimized. At the same time, in contrast to many consumer advocates, this Article has also argued that application of extraordinary obligations should not extend to power supply or marketing. As compared to price regulation, which masked many discussions about cross-subsidies, competitive retail markets will require that these distributional goals be pursued through explicit subsidies, not implicitly built into customer rates for bundled service.

It will become important that, in addressing the financing of extraordinary service obligations, regulators avoid building into competitive retail markets many of the same structural mechanisms that have posed problems elsewhere in the past. As I have suggested, in initial restructuring of 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 a basic service obligation on the DisCo, to be fulfilled through voluntary procurement of power supply and financed through an SBC, minimizes the inefficiency of imposing a service obligation in a competitive market.

Limiting application of the duty to serve to distribution, though, poses new issues as regulators attempt to minimize the anticompetitive problems associated with distributors that also own or operate generation. Although it may be desirable, mandated divestiture of power supply is not necessary; instead, an unbundled market with an efficient supply exchange clearinghouse, based on the PoolCo model, and properly set exit fees can minimize the inefficiencies associated with application of the duty to serve to natural monopoly distribution services on an interim basis.

In the longer run, as distribution becomes competitive, efficient preservation of the common law doctrine may require alternative financing mechanisms, such as the establishment of a national sales tax or an industry tax on power supply, if society is willing to make a commitment to such a tax. Such a tax is also likely to be necessary in the telecommunications industry, as local carriers face competition from wireless service providers, but may not be necessary to finance service obligations in the natural gas industry.[310]

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310. Although the justifications for environmental programs will differ from the consumer protections discussed in this Article, in the short run the SBC can also be utilized to recover the costs of these programs. However, for these programs, the industry developments I warn against with the decay of distribution monopoly will also require regulators to find new financing mechanisms, such as a national power consumption or supply tax.

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. Regulators must be bold and creative in approaching the content and financing of extraordinary service obligations for new actors in these markets, with a keen eye towards minimizing the structural inefficiencies they pose. Careful study and appreciation of the distinct economic and institutional structures of various utility service markets will be necessary to provide sound guidance as regulators 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.