

DEFAULT SUPPLY IN RESTRUCTURED ELECTRICITY MARKETS

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I. INTRODUCTION

A. The Nature of Default Service

Along with the efficiency and competition, every deregulation brings unanticipated problems. Electricity's have been numerous, recently having come to include the question of "default" service. In competitive markets there will remain a residual obligation to sell power to those users who have "chosen not to choose" a new supplier. Policies of the Federal Energy Regulatory Commission [FERC] have encouraged the development of "wholesale" markets that will allow entities under its jurisdiction an increased scope for transactions in power and transmission.¹ Competition is moving downstream, as an increasing number of state regulatory agencies give power consumers ["retail" customers] within their jurisdictions the right to bypass their local utility. They will be able to obtain power from competitive marketers and non-utility producers, to be delivered on the local utility's system. Consumers who bypass will continue to pay regulated rates for delivery of the energy, including capital and maintenance charges for the distribution lines.

Regulators who allow retail access must now determine rates, rate designs, and terms of service for those who do not choose a new supplier. Non-choosers may have gone shopping and failed to find more attractive offers in the market, or they

¹ Order No. 888, *Promoting Wholesale Competition Through Open Access Non-Discriminatory Transmission Services by Public Utilities; Recovery of Stranded Costs by Public Utilities and Transmitting Utilities*, F.E.R.C. STATS. & REGS. ¶ 31,036, 61 Fed. Reg. 21,540 (1996) (Codified at 18 C.F.R. Pts. 35, 385).

might simply have chosen not to inform themselves about the alternatives to the utility. The treatment of “default” customers and the entity that serves them has unexpectedly become a critical policy choice. State regulators must determine the appropriate separation of costs into those incurred for all users of the utility’s lines regardless of who produces their energy [“distribution” charges] and those associated with resales of energy by the utility that will vanish if a customer chooses another supplier [“procurement” charges]. There may even be stranded costs, such as those of meters left idle when departing customers avail themselves of competitively supplied meters. Beyond separating costs of distribution and procurement, regulators must impose efficient rate designs for both default and non-default service. If they fail to do so, the resulting distortions will encourage the departure of some customers who should stay with the utility, and vice versa. The level and design of default rates will also impact the performance of markets for non-default services, including investment by new suppliers in those markets.

Technology and law add to the complications of regulation. The law may require that all residences be connected to the utility. Technology ensures that the electrons purchase by a customer’s chosen supplier cannot be earmarked for delivery to that customer. Most users can only be disconnected from the distribution grid only at the cost of losing their entire power supplies, and regulatory politics is unlikely to allow large-scale service cutoffs. The default seller then has an ongoing obligation to serve anyone who has not chosen otherwise, whether due to inertia, poor credit risk, or an odd load pattern that allows the user to take advantage of inefficiencies in regulated rate designs. There is, however, no need to require that the incumbent utility be the default seller. Instead, another party might take over the function of procuring the requirements of default customers and reselling them, while the utility remains responsible for the distribution system itself. If a non-utility default server is allowed, regulators must determine who is eligible, the criteria for selection of a winner, the length of a server’s terms, and the criteria for evaluating its performance.

The set of supply choices available to the default server can also affect the growth and performance of the non-default market. All suppliers must produce power or procure it for delivery at the moment it is demanded, and some party must be responsible for matching supply and demand exactly. Depending on metering costs, available financial instruments, and ingenuity, retailers who buy through the exchange might offer their customers plans with hourly passthrough of the exchange price, hedged exchange prices, or prices set in long-term contracts. If bilateral energy transactions are also possible, a retail supplier can strike deals for physical energy at prices that may differ from those in the exchange. If the default seller is a large presence [and particularly if it is the incumbent utility], its monopoly power may present regulators with additional problems. Regulation may limit the profits to be earned from default customers, but retention of a mass of those customers may be an important to a utility holding company's competitive strategies in unregulated markets.

B. Experience and Issues

If experience thus far is any indication, the design of default service rates and obligations will be a major determinant of the growth of non-default markets. Three large states have had retail choice programs in effect for long enough to see their initial impact:

- [1] In California, 14.3 percent of total energy load of the state's three large corporate utilities had switched to nondefault suppliers as of April 15, 2000. By class, this is 2.3 percent of residential load, 9.3 percent of commercial,

and 32.6 percent of industrial [over 500 kw demand].² Direct access began for all customers in all classes on April 1, 1998.

- [2] Pennsylvania regulators phased in customer access, with approximately 2/3 of utility customers eligible as of Jan. 1, 1999, and the remainder on Jan. 1, 2000. As of April 1, 2000, 17.4 percent of the state's residential load, 44.7 percent of commercial, and 63.5 percent of industrial had departed. The figures vary substantially by class among utilities. GPU Energy [Harrisburg] lost only 6.6 percent of its residential load, but 69.2 percent of industrial, while Duquesne Light [Pittsburgh] lost 24.7 percent of residential but only 13.2 percent of industrial load.³
- [3] Retail access began in Massachusetts on April 1, 1998. As of April 2000, 2.1 percent of residential load had left default ["standard offer"] service, 3.3 percent of commercial, and 16.5 percent of industrial load. Industrial switches are down from 20.7 percent of load in November 1999.⁴

It is easy to make conjectures and hard to draw conclusions from these figures, since the programs and utilities in the states are so dissimilar. In California, price signals are severely attenuated. Customers do not directly experience California Power Exchange [PX] prices due to a rate freeze [10 percent reduction for residential and small commercial customers] that will last until March 30, 2002. Over this period, utilities can collect transition costs in the residual between frozen

² California Public Utilities Commission, Supplemental Direct Access Implementation Activities Report Statewide Summary, April 15, 2000, at ftp://ftp.cpuc.ca.gov/gopher-data/energy_division/dasrs/ToDateMarch2000_web.

³ See Pennsylvania Office of Consumer Advocate, PA Electric Shopping Statistics, at http://www.state.pa.us/PA_Exec/Attorney_General/Consumer_Advocate/elecomp/elecchart.pdf.

⁴ See Massachusetts Division of Energy Resources, Customer Migration Data, at http://www.state.ma.us/doer/pub_info/migrate.xls

rates and PX energy prices. They must obtain their entire supplies of power through the PX, save for resources operating under pre-existing contracts. Even the two percent residential changeover may be optimistically misleading. As of this writing, the only non-utilities marketing to residential customers are offering green [environmentally benign] products at state-subsidized prices that make them competitive with PX power. On the other hand, a third of the state's industrial loads have departed, although they face the same rate freeze and stranded cost collection mechanism as do residential.

In Massachusetts, there is no general freeze, but the authorized Standard Offer provides alternative suppliers little or no margin over the New England market energy price. [Joskow 2000, p. 54] For all customer classes, switchovers are fewer in Massachusetts than in California. At the other extreme, Pennsylvania regulators have arrived at settlements with individual utilities that reflect their differing load characteristics, embedded costs, and transitional situations. All of the settlements specify fixed amounts of stranded costs to be collected users regardless of who sells them their power. The settlements also specify "shopping credits" of between four and five cents per kwh to be deducted from the bills of customers who choose non-utility suppliers. Opinions vary substantially about the costs that a utility actually avoids when a customer leaves, and some critics allege that the high departure rates in Pennsylvania are artifacts of a flawed method of setting the shopping credit.⁵

If default utilities have a substantial presence in retail markets, they must be similarly influential in wholesale ones. My next section examines the effect of

⁵ For critiques, see Kahn [1999] and Joskow [2000, p. 46]. The latter claims that the shopping credit is actually structured to leave disproportionate stranded cost obligations in the hands of customers who stay with utility service. For a defense, see Rohrbach [1999, fn 18]. Departures are correlated with the size of a utility's shopping credit — seventeen percent of PECO's residential load has departed to enjoy that company's high shopping credit, while only 6.6 percent of GPU's residential customers have accepted that company's low credit.

default service using a standard model of a dominant firm facing a competitive fringe. I then examine how regulators have handled the critical issues pointed up by this model. Those questions include the product-offering and customer-attraction options that should be available to the default seller, the allowable options for that seller to obtain its power supply and to cope with risk, and the measurement of retail competition in the presence of default supply. Prior to concluding I consider alternative policies that have been enacted or proposed to put the default supplier's role up for competition.

II. THE DEFAULT SERVER AS DOMINANT FIRM

A. The Paradox of Default Service

If a utility is assured of recovering both its energy and non-energy costs of service, it should be indifferent as to whether it or some other entities takes on the role of default server. Assuming regulators perform their job well, risk-adjusted returns to its shareholders will be independent of the mix of default and non-default customers it serves. In all retail restructurings thus far, however, incumbent utilities have fought tenaciously to hold their customers, and where the default service role has been open to competitors utilities have aggressively sought the obligation.

Utilities appear in practice to be quite conscious of their size.⁶ Most large systems are now regulated units of holding companies whose unregulated units can operate freely as non-default suppliers or in other markets. If so, the default utility may be able to strategically use regulation and incumbent status to raise the costs of its rivals in the non-default market. The regulated utility may incur recoverable expenses whose effect is to cross-subsidize the holding company's unregulated unit. Utilities may use their intangible assets strategically, attempting to enhance their brand name's goodwill by advertising that reinforces memories of that name or misleadingly hints that service will not be as good for customers who go with another supplier. The utility brand's longstanding goodwill may be enhanced by advertising that both touts its name and misleadingly hints that service will not be as good for customers who go with another supplier.⁷ It may also attempt to link the brand (e.g. via a logo) to unregulated services including, among others, appliance repairs, generalized energy services, burglar alarms, and [in California]

⁶ Agency problems provide an alternative rationale for size consciousness. Utilities may be particularly vulnerable to opportunistic managerial behavior. Their ownership is generally less concentrated than that of firms in other industries, leaving fewer large interested blocs of shareholders who will actively attempt to influence company policy. As they divest generation, numerous utilities are also receiving substantial free cash flows that do not need to be reinvested in the company's old functions. Poorly controlled managements may prefer to keep these funds for investment in mergers with other utilities or in unregulated ventures rather than returning them to shareholders. Recent utility mergers have produced few benefits for shareholders [Leggio and Lien 2000, Rajan and Ellis 2000]. The arguments of the text do not further consider such agency problems.

⁷ e.g. Southern California Edison stresses that it provides "the power behind peace of mind" in ads that portray its linemen working in unpleasant situations but do not mention that the same lines serve non-Edison customers.

newspaper subscriptions.⁸ The allowable conduct of retail power marketing affiliates is a frequent subject of state regulatory proceedings.⁹

The utility may further be able to engage in activities that raise the costs of its rivals in non-default markets.¹⁰ Costs that allow the company to petition for restrictive regulation may be recoverable from default ratepayers, and rivals might pay some costs that have been improperly lumped into distribution tariffs.¹¹ Advertising subsidized by default customers might either raise the cost to non-utilities of persuading an individual customer to switch [marginal], or require higher investments in counter-advertising [fixed costs] from entrants into the non-default market. Utilities might also incur costs to such non-default services as multiple rate schedules and green power options to default customers. On the supply side, a large default utility might attempt to use its market power to affect prices at which it obtains its supplies.¹² California utilities are currently allowed a limited

⁸ Utilities claim that their marketing affiliates have the right to use utility brand names and logos even if their value was created prior to the arrival of competition. See Edison Electric Institute, "The First Amendment, the Free Flow of Information and Affiliates' Use of Utility Names and Logos," at www.eei.org/issues/comp_reg/first_amend.pdf. In any case, it is hard to imagine practical ways to put a dollar value on returns to the brand name and then reduce the returns of utility shareholders accordingly. Re subscriptions, regulators have requested an end to the program. See "PUC Staff Questions Edison, L.A. Times Deal, *Los Angeles Times*, Dec. 3, 1999.

⁹ e.g. California Public Utilities Commission, D.97-12-088, Opinion Adopting Standards of Conduct Governing Relationships Between Utilities and Their Affiliates, www.cpuc.ca.gov/electric_restructuring/decisions/d9712088/table_of_contents.htm

¹⁰ Cost allocations are at the heart of the controversy over whether "shopping credits" for departing customers [e.g. in Pennsylvania] and "standard offers" for default service [e.g. in Massachusetts] have been set at incorrect levels.

¹¹ These are variants on Brennan's [1987] theme of the many ways in which a regulated firm can cross-subsidize unregulated activities. Here, the investment is not in the unregulated activity itself, but in the maintenance of a customer base toward which to pitch the unregulated service.

¹² "The purposes of the pilot [Block Forward] program are to: (1) Diversify Edison's procurement portfolio to mitigate the impact of price spikes on Edison's customers; (2) enable Edison to compete on behalf of its customers for potentially lower cost supplies that

range of derivatives and demand-reduction techniques to affect the prices for energy obtained from the PX and ancillary services obtained in markets run by the state's Independent System Operator [ISO].¹³ Proposals for these instruments originated with the utilities.

Probably the most important controversies center on the default server's allowable power supply choices. Efficiency would seem to require that its options be limited to transactions in a transparently priced energy commodity that take place in a competitive regional market (in the event one is available), and full passthrough of those prices in retail rates.¹⁴ As noted above, during California's transition period its utilities must obtain all power for their default customers in the PX and ISO markets, save for contracts made prior to restructuring. Because such a large fraction of the state's power passes through the PX, its time-varying price is probably the best and most transparent point of comparison for those making a choice between utility and non-utility service.¹⁵ In other states, regional markets such as those administered by the Pennsylvania-New Jersey-Maryland Interconnection [PJM] and the New England Power Pool [NEPOOL] perform the same functions as the California PX.

are sold by generators on a forward basis..." Application of Southern California Edison Company for a Commission Order Authorizing a Pilot Program for Reselling Bilateral Block Forward Purchases into the PX and ISO, Application No. 99-03-062, Mar. 30, 1999.

¹³ The state's utilities can trade up to 8,000 MW in the California Power Exchange's "Block Forward" market until the end of their rate freezes. That market provides visible prices for deliveries with determinate flows to take place during a future month. "Calif. Regulators Allow PG&E, SoCal Ed to Play in Block Forward Market to 2002," *Electric Utility Week*, Mar. 27, 2000, 8. The "E-bid" program allows utilities to call on customers to reduce their loads and receive lower prices later. "PG&E Offers Payoff for Large Customer Abstinence," *Megawatt Daily*, April 8, 2000, 2.

¹⁴ For a summary of the arguments, see Ruff [1999].

¹⁵ In California, utilities can still gamble on the relationship between the day-ahead price in the PX and the price that prevails in the ISO real-time ["imbalance"] market, where the final match between supply and demand bids takes place.

III. INTERACTIONS OF DEFAULT AND NON-DEFAULT SERVICE

A. Dominant Firm Model

Levels of market penetration by non-utility suppliers suggest that the model of a dominant firm with a competitive fringe [Carlton and Perloff 1999, p. 107] applies to states that have recently restructured. The fringes themselves, however, are quite highly concentrated thus far.¹⁶ In Fig. 1, the existing utility faces demand curve D for default service that depends on the price per unit [kwh]. Fixed distribution costs are collected in proportion to energy use, and both default and nondefault customers pay prorated shares. Without loss of generality, assume for convenience that distribution cost is zero. The utility purchases power for default customers in a competitive exchange, and the price paid is its entire marginal cost. Regulators set the default rate at marginal cost plus prorated fixed cost, thus far zero. The utility breaks even by selling Q^* and charging regulated price P^* . Now let it incur a fixed rent-seeking expense, whose average is given by curve A . If regulators allow the utility to recover both energy and rent-seeking costs, default customers pay P^{**} per unit. If the rent-seeking expense is pure waste, the deadweight loss is given by trapezoid CEP^*P^{**} .

In the non-default market shown in Fig. 2, demand is D_{nd} and the supply of a price-taking competitive fringe is S_f . In light of the information above on market shares, treat the utility's unregulated affiliate as a dominant firm with marginal cost MC_u . It faces residual demand D_{res} , derived by subtracting fringe supply from market demand. The affiliate operates where marginal cost equals residual marginal revenue, MR_{res} . Market price is P_n^* and output is Q_n^* . The utility's expense in the

¹⁶ California's two largest non-utility suppliers accounted for 85 percent of non-utility sales in the state in 1999. "McGraw-Hill's NEXTMarkets Finds Electric Utilities Faring Well Against New Retail Power Marketing Companies in Deregulated Markets," *PR Newswire*, May 11, 2000.

default market first affects the costs of the fringe, shifting the supply upward to S_f^1 .¹⁷ The new residual demand is given by D_{res}^1 . Equilibrium price rises to P_n^{**} and market output rises to Q_n^{**} .¹⁸ For a parallel shift of fringe supply, the dominant firm's output rises and that of the fringe falls.¹⁹ Even if the dominant firm's actions raise its own marginal costs of serving the nondefault market, its profits may still increase if it succeeds in raising those of its rivals by a sufficient amount. [Salop *et al*, 1984] The utility might have an interest in sending its default customers to the non-default market and raising demand there, but the observed behavior of utilities has been consistent with efforts to maintain as large a default clientele as possible.

¹⁷ The default server's investment can also affect the fixed costs of fringe firms, driving out marginal ones or discouraging entry in the long run. The assumption that it affects marginal costs makes a welfare analysis easier.

¹⁸ For legibility the new marginal revenue curve is not shown.

¹⁹ If the difference between new and old fringe supply falls quickly with output, it renders the new residual demand more elastic and may lead to a drop in the dominant firm's output.

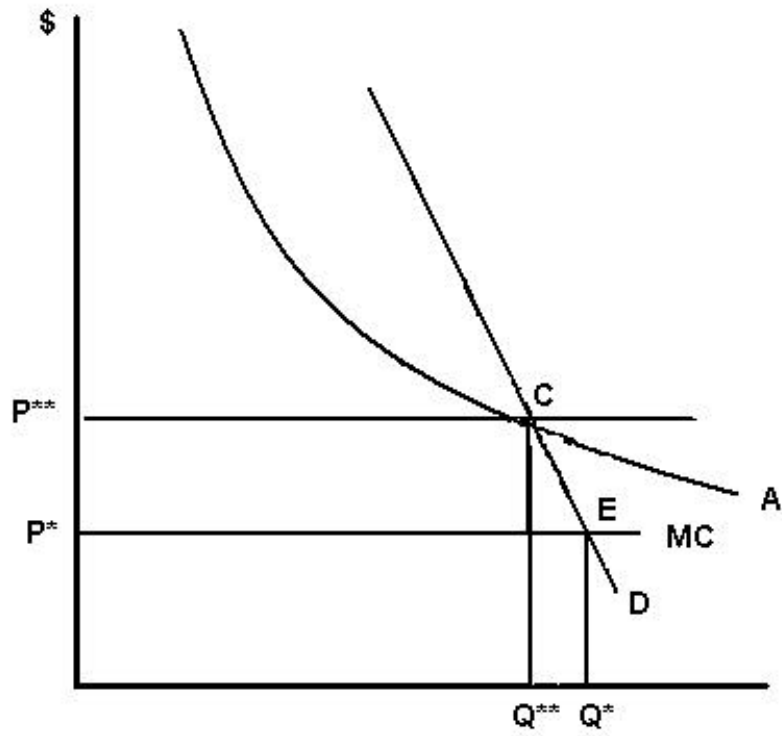


Fig. 1: Default Utility Service

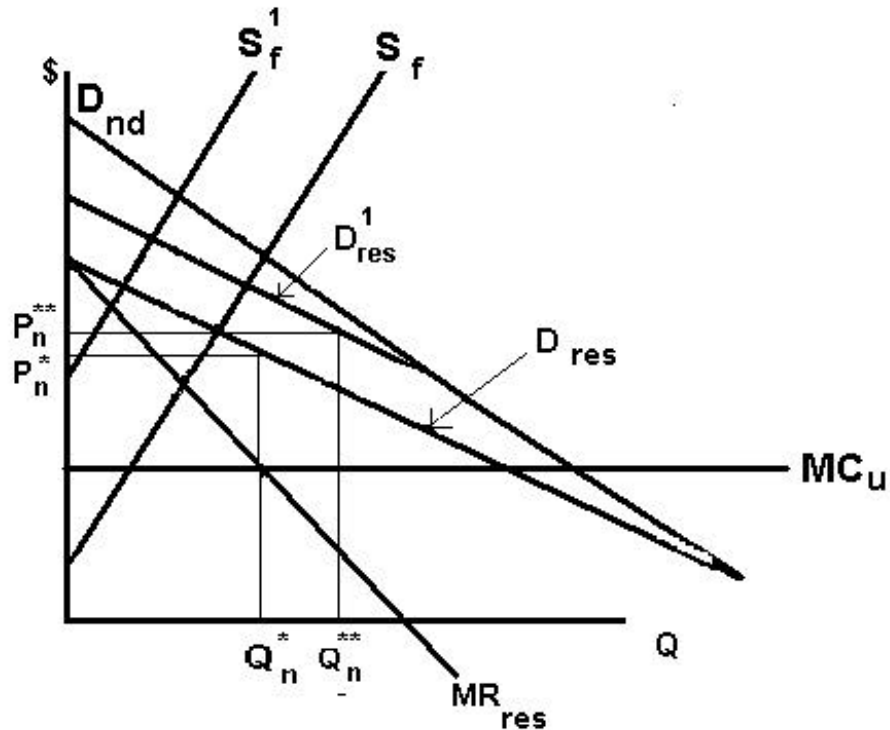


Fig. 2: Residual Demand and Fringe Cost Shift in Non-Default Market

Policy Implications

The traditional utility obligation was to supply everyone's full requirements at prices that recovered its full cost of service, ideally identical to those that would have prevailed had competition been possible. Default service is an obligation to resell competitively produced power to those who do not otherwise provide themselves with it, at prices that recover its costs of production and delivery. Regulatory policies toward default service can only be determined in the broader context of

the competitive roles of wholesale and retail markets. Retail competition might usefully supplement wholesale competition, although some have doubts that customers likely to take default service can benefit from competition beyond that embodied in wholesale prices. [Joskow 2000, 17-24] Others see retail competition as generally improving the quality and expanding the benefits of wholesale competition. [Goulding *et al* 1999] Incumbent utilities may have provided the best evidence on the merits of retail competition by their initial postures on restructuring. They were near-unanimous in arguing before regulators that wholesale competition would suffice to produce all of the potential benefits of restructuring and competing retail servers would be unnecessary or pernicious.²⁰ Now that retail competition is becoming the general rule, the same utilities are petitioning regulators for the right to design default services that do more than pass through wholesale prices.²¹

Whatever the state of competition in wholesale markets, state regulators should resist utility claims that concern over the bills of default customers necessitates any activities beyond the passthrough of wholesale prices.²² If wholesale markets are competitive, retail bills that pass wholesale prices on to retail customers are economically efficient, whether the wholesale prices are high or low. If wholesale markets are not competitive, regulatory policies that explicitly address their imperfections are to be preferred to attempts at remedies that entrust entities with

²⁰ This need not imply that utilities would be incompetent as retail competitors. In some cases utilities may have had good reason to view retail competition as a means by which some customers might manage to escape obligations to pay off stranded costs.

²¹ Joskow [2000, p. 5] claims that utilities really want to offer nothing but passthrough-based "basic electric service," but non-utilities have interests in suppressing the price transparency that would result. Contrary to Joskow, California utilities have persistently searched for regulatory permission to distance themselves from the PX price, and marketers have sought to limit utilities to the PX.

²² The text assumes that the default utility's holding company has an unregulated operating unit that can engage in retail marketing.

monopoly power at retail to exercise countervailing power at wholesale.²³ wholesale passthrough is desirable because it facilitates comparisons between the offers of the default server and competitive retailers.

Markets (particularly new ones) are places for experimentation by competitive sellers, who may face bankruptcy if they make poor choices. Customers are volunteers who assume some of the risk for consequences of the choices made by their suppliers. In the case of default utilities, however, the losses from imprudent choices will be borne by customers who are unlikely to be aware of the actions that their server has chosen. The transition to more competitive markets will bring new problems for regulators attempting to judge the *ex ante* prudence of a default server's actions. The new sources of uncertainty will include new types of physical transactions [for power, fuels, and transmission] and new financial instruments that have come with the growth of wholesale markets.

There is no clear standstill point for regulation of default service between the two poles of strict wholesale passthrough and a hands-off policy. Regulators may as always make two types of errors. They can allow the default server to engage in practices whose effect is to harm competition, or they can disallow practices whose effect is to increase it. During the transition, an incumbent utility acting as default server will more likely have market power than the members of a competitive fringe. There is thus little gain in giving the default server enhanced market options. These options are available to any competitive seller willing to take the risk, and if a market option that facilitates monopolization by the default seller may be innocuous in the hands of a smaller one. There will be unavoidable places where even the default supplier must act with discretion that is hard for regulators to evaluate *ex post*, but there is no clear reason to expand the number

²³ The fact that wholesale markets are under federal jurisdiction and retail markets under state jurisdiction complicates this argument.

of those places.²⁴ Beyond the types of transactions allowed, regulators may also have to determine the trading institutions in which they can take place. Two California Commissioners recently drafted a preliminary decision on default service, alternative to one by the Administrative Law Judge who presided over the docket.²⁵ The Commissioners suggested allowing a default utility to operate in any qualifying wholesale trading institution rather than being restricted to the PX. The Commissioners noted that a potential alternative already existed, but did not specify criteria for determining the acceptability of a given trading venue.²⁶

Methods of encouraging a monopoly to behave efficiently may produce perverse effects if imposed on a default provider. Performance-based ratemaking [PBR] for the monopoly part of the utility's business [e.g. wires maintenance] will carry the same benefits and costs that it did prior to restructuring. PBR for procurement, however, may increase the rewards to the default supplier for acts that potentially harm competition. The default supplier with real or financial choices about power supply costs beyond those of a competitive PX will now receive a reward for any savings it achieves. The symmetry between shareholder gains and ratepayer losses is arguable, but PBR proposals by California utilities would have tapped ratepayers for part of any shortfall between the benchmark and actual costs incurred. A preliminary decision in that state's post-transition ratemaking docket

²⁴ As one example of unavoidable but risky discretion, California utilities must submit their expected demand over the next day to the ISO and arrange for adequate purchases through the PX. Since forecasts are imperfect, they will almost surely need to supplement or dispose of some PX purchases in the ISO real-time market. A utility can then submit biased forecasts that regulators cannot easily detect in order to speculate on spreads between the day-ahead and real-time markets.

²⁵ California Public Utilities Commission, Docket Nos. 99-01-016 et al, Proposed Decision of ALJ Minkin, April 20, 2000. "Neeper and Bilas Issue Alternate on Post-Transition Rate Decision," *California Energy Markets*, April 28, 2000, 5. The full Commission has yet to rule on this docket.

²⁶ The alternative was the Automated Power Exchange, a computer-linked bid system whose estimated volume is 10 percent that of the California PX.

rejected these proposals in favor of holding a full docket on them as the transition comes to an end.

C. Post-Transition Competition

A default server may still have market power and be capable of exercising it, even if obligated to serve under regulated rates. It will probably be a large presence in both retail and wholesale markets, and may be more knowledgeable about regulatory strategy than its less-experienced competitors.²⁷ Past antitrust cases in the industry are mirrored in regulatory concern over utility-owned facilities that are essential for competition. [Kleit and Michaels 1994] Utilities are required to charge cost-based rates for non-utility power flowing on their distribution systems. It hardly seems reasonable, however, to always assume that the utility views its competitors with equanimity, or that it always accommodates their requests as it would its own. Restructured retail markets may mirror the experiences of wholesale markets regarding utility delays in interconnecting and otherwise accommodating power produced or marketed by non-utilities.

Conventional measures of market power such as shares or Herfindahl-Hirschman Indices [HHI] are more problematic at retail than at wholesale, and the task of finding better measures remains. Looked at in isolation, the default server's market share may be misleading, since it reflects the obligation to supply power to all who are not otherwise served. In a newly opened territory, the former monopoly utility's share will be understandably large, since buyers need time to

²⁷ The text implicitly assumes that the market's territory is the assigned area in which the default supplier obligation applies and its product is basic electric service. For antitrust analysis the relevant geographic scope and product[s] must be determined using the criteria of substitutability and barriers to competition embodied in federal merger Guidelines. While the Guidelines explicitly deal with mergers, most economists view their criteria for market definition as applicable to other antitrust issues. See U.S. Department of Justice Horizontal Merger Guidelines, 57 Fed. Reg. 41,552, reprinted in 4 Trade Reg. Rep. (CCH), ¶ 13,104 (April 2, 1992).

evaluate their alternatives and sellers need time to commit investments to the market and otherwise make themselves known. As noted above, the small sample of idiosyncratic data on restructured markets does not yet allow firm conclusions on the size of incumbency barriers. Market participants include unregulated affiliates of utilities, non-utilities with experience in wholesale trading, and non-utilities founded to supply at retail. If entry and exit are easy enough that retail markets are perfectly contestable, shares will be meaningless as indicators of market power on those grounds as well.

Joskow [2000, p. 37] stresses the ambiguity of market shares, noting correctly that low switching rates away from default service, particularly for small customers, are not necessarily consequences of the default server's market power. Instead, low switching rates may reflect no more than that "[non-default sellers] have been unsuccessful in finding value-added services that [make] it attractive for customers to buy at retail rather than at wholesale." Shares may reflect switching that has taken place in response to regulatory misallocations of certain costs that make non-default service more attractive than is warranted. Joskow notes that what really matters are "the value added services being offered by ESPs to their customer groups and their costs." [2000, p. 38] This suggestion, however, is probably of little value because it measures competition by using a regulatory yardstick. If commissions begin comparing booked benefits and costs in this manner, they may be reinstating the genre of regulation that most observers hoped competition would supersede.²⁸

IV. THE CONSEQUENCES FOR LONG-TERM COMPETITION

²⁸ A default server might use regulation based on this reasoning to obtain information about competitors that would otherwise be hard to find.

A. The Scope of Beneficial Rivalry

In most state restructurings thus far, proponents of direct transactions between end-users and suppliers have gained rights to make them. Those favoring wholesale-only regimes with passthrough have lost, but an important school of thought continues to believe that such a regime can for the time being deliver all feasible benefits of competition to small retail customers. In the current state of the industry, large users may be able to overcome certain transaction costs [e.g. metering] that small users cannot. If so, allowing large users to directly use market institutions may create value in ways that are impossible if regulators restrict them to default service and paper transactions.²⁹

Some proponents of retail monopoly for small users make deeper efficiency claims. Apparently basing his reasoning on theories of externality and monopolistic competition, Joskow [2000, pp. 2 and 9] argues that non-utility supply to small customers may create social losses. Non-utilities will make false claims, act fraudulently, and convey their messages with socially wasteful advertising. These actions will impose added burdens on regulators and costs on consumers in general, in return for few efficiency gains relative to wholesale passthrough.³⁰ In addition, introducing new providers will require a lengthy and burdensome ratemaking to separate the commodity and service portions of distribution costs. Joskow recognizes that states that have opened retail markets to small customers

²⁹ Since deliveries to small customers are not priced by time-of-use, the possible strength of their responses to market signals is currently quite attenuated. To calculate their bills, hourly prices are adjusted by group load profiles.

³⁰ Joskow is also concerned with a potential adverse selection problem. He expects that customers with lower costs of service will move to competitive suppliers, leaving default sellers with high-cost customers and poor credit risks. If this is in fact a serious difficulty, the indicated policy is to eliminate cross-subsidies, possibly by finer load profiling. More broadly, the situation affords a singular opportunity to end the role of utilities as surrogate welfare agencies. There is no obvious reason to expect that utility regulators are the right people to deal with needy or irresponsible consumers.

cannot easily reverse themselves, but recommends that the remainder consider default service restrictions in their restructuring plans. As experience with direct access for large users accumulates, he expects that regulators will be able to draw inferences about the benefits of allowing alternatives to small users, and thus determine the appropriate time to expand their choices.

Joskow appears to recognize that this view of default service reflects some prejudgments about the possibilities for competition, since it asserts that regulators can determine the benefits of opening the market to small consumers in advance of actually doing so. Regulators must thus be able to envision the forms that competition might take, e.g. innovative service options, and whether the benefits of allowing these forms outweigh the costs. Joskow also treats utilities unrealistically. While regulators are attempting to determine the value of new retail competition, incumbent utilities acting as default servers will have interests of their own. They will expend resources [some recoverable under regulation] to keep their default status, hold on to those customers, raise competitors costs, and otherwise maintain favorable regulation. It is hard to envision a default server providing regulators with a recommendation that their default customer bases be opened to competition. As this process goes on, regulators will also need to determine the range of customer options the default server can offer. Joskow is willing to entertain a green default variant as an alternative to strict passthrough of PX prices. Utilities will probably have additional suggestions, particularly regarding plans to insulate default customers from unstable PX prices.

Alongside those who argue the theoretical case for default monopoly are those whose pessimism about the growth of competition stems from their estimates of retailing margins and expenses. With little direct experience in electricity to draw on, Flaim [2000] uses data from telecommunications resellers to show that a non-utility provider will incur average residential "customer acquisition costs" of approximately \$70 and "customer care costs" of \$30 annually. She goes on to

see few savings from competitive supply, since the energy component of a small customer's power bill averages only \$198 per year and possible savings on non-energy costs are minimal. Figures like these, however, hardly provide arguments for an enforced default monopoly, particularly if potential competitors make more optimistic estimates for themselves. Such recent announcements as the \$120 million investment by Enron, IBM, and AOL in startup firm New Power are wagers that competition has yet to be tried on the right scale, and that the right types of contacts between customers and suppliers have yet to be introduced.³¹

B. Competition for the Default Server's Role

Utility-provided default service with a PX passthrough keeps deliveries in the hands of the entity traditionally responsible for them. As experience with restructuring accumulates, perpetual holding of the default obligation by incumbent utilities is being replaced by mechanisms to put that role itself up for bids. In all plans thus far, however, facility maintenance, service drops, and other distribution-related customer services will remain with the incumbent firm. The winner of the bidding gains only a right to assemble a power supply and earn revenue, both subject to idiosyncratic constraints. Tschamler [2000, pp. 77-78] specifies five variant default institutions:

Utility Inheritance: As above, the utility that has historically served retains its obligations to assemble an economical power supply and provide distribution-related services over a certificated territory. Regulators can restrict the utility's procurement options to such markets as are provided by a PX and its ratemaking options to passthrough of the PX price. This

³¹ "Enron, IBM and AOL to Provide Services to Assist a Start-Up," *Wall Street Journal*, May 17, 2000, A8.

situation prevails in California until 2002, with rules on subsequent default service yet to be determined.

Transfer: The obligation to procure a power supply for default service is awarded without bidding. In Texas after 2001 it will automatically go to a utility's distribution affiliate, and the utility remains responsible for its operation and maintenance.³² In Connecticut, a regulatory settlement with United Illuminating has given the default role in that territory to Enron without competitive bidding.³³ As noted above, the criteria for competitive market structures are particularly elusive in retail electricity. Nevertheless, Texas, Pennsylvania [see below], and some other states intend to determine future policies on the basis of market shares. Texas's "price-to-beat" provision requires a rate cut of 6 percent with the opening of the retail market and then a freeze for three years or until 40% of residential and small commercial customers have abandoned the utility.³⁴

Price Auction: Bidders, who may include utility affiliates, compete by offering prices that they intend to charge default customers over the next year. As implemented in Maine, the winner has no regulatory recourse in the event of losses. The future of the Maine process is in doubt since state regulators rejected all bids for default service for 95 percent of the state's load as unnecessarily high relative to historical costs of service.³⁵

³² "IOU Unbundling Plans in Texas Force PUC to Rule on Degree of Affiliate Separation," *Power Markets Week*, Jan. 17, 2000, 9.

³³ "Enron to Supply UI's Standard-Offer Users, Will Assume Four NUG Contracts," *Power Markets Week*, Aug. 16, 1999, 4.

³⁴ "Texas Decides First Stranded-Cost Case; Retailer Sees Utility Price Hard to Beat," *Power Markets Week*, Feb. 21, 2000, 11.

³⁵ Bidders responded that their high rates reflected the length of the commitment, the lack of recourse, and growing instability in the New England power market. "Maine PUC Rejects Standard Offer Bids Across State," *Energy Report*, Nov. 1, 1999, 2.

Revenue Bid Auction: Before bidding begins, regulators determine the appropriate prices for customers to pay their retail suppliers.[!] Bidders then compete for the right to serve customers at these prices. Proceeds of the bidding go to the utility, which forwards customer payments to the bidder. This mechanism will be used by a restructured Duquesne Light. [Pittsburgh]

Assignment: Customers who do not affirmatively choose a supplier are assigned to one or more of the competitive suppliers. Those suppliers individually determine the terms of their default service. PECO [Philadelphia] must reassign 20 percent of its residential customers to a new default server on Jan. 1, 2001 and 50 percent by Jan. 1, 2003 in the event those percentages have not been reached by voluntary departures.³⁶ Atlanta Gas Light's territory has already been restructured in this way.³⁷

In all of the above cases, it is hard to find analytical rationales in the state regulatory record for the method of default supplier determination that was ultimately chosen. Electricity distribution has long been cited as an activity that might lend itself to franchise bidding [Demsetz 1968, Harstad and Crew 1999], and in the U.S. it is the subject of occasional elections that pit corporate against municipal operators of an existing low-voltage grid. Electricity is also cited as a potential case for longer-term regulation due to considerations of transaction costs and risks of opportunistic behavior. [Williamson 1976, Goldberg 1976]. The latter considerations have seldom been expressed explicitly in the process of formulating state policies on default service. Economists have not yet performed comparative

³⁶ "DCR Comments on PECO's Global Restructuring Settlement," *PR Newswire*, May 4, 1999. The settlement reached with another Pennsylvania utility specified that 20 percent of its load would initially be sent to a new default seller, but the utility received no bids for that role. "GPU Gets No Bids for Default Users; Must Now Go into Market for 250 MW," *Electric Utility Week*, Feb. 7, 2000, 1.

³⁷ "Ga. Market is 'Powerful Evidence' that Full Retail Competition Works," *Gas Utility Report*, April 7, 2000, 1.

analyses of the above schemes, which appear to be ideal topics for a combined application of the theories of transaction costs and auctions.

V. SUMMARY AND CONCLUSIONS

The most oft-articulated rule for restructuring regulated industries appears to be that where competitive markets are possible competition should be instituted, but where monopoly is endemic regulation should be improved or at least retained. Default electricity service tests the limits of that rule. Public policy and electrical technology make it hard to exclude any individual from electric service, even if that person makes no affirmative choice of supplier. Assignment of non-choosers to competitive suppliers faces the problem that different retailers may offer differing packages, and some of them may not be interested in serving small customers at all. Competitive sellers construct their power supplies in different ways and expose their customers to differing degrees of price risk. Without a general default supplier, or an imposed requirement that all sellers carry a standardized product at a standardized price, maxims of equal treatment on both sides of the market are violated.

A default electricity supplier almost surely has some degree of market power over retail customers, whether by virtue of simple size or the brand-specific capital it built up prior to restructuring. Holding companies with unregulated and regulated divisions have incentives to use the technology of default service and the regulation of that service to advantage themselves in unregulated markets. This makes the design of default server obligations (e.g. the range of options it offers customers) and constraints on how the server can obtain power supplies important for the growth of future competition. Experience thus far in states with retail choice indicates that rate levels and designs are critical determinants of the degree to which non-utility retailers can penetrate markets.

There are, however, arguments against taking market shares of non-utilities as indicators of the state of competition. In particular, some have argued that in the current state of competition and technology there can be few benefits for retail customers beyond those contained in the price signals that are passed through from competitive wholesale markets. If there are so few benefits, it should not be surprising to see that so few customers leave utility service. This brings two views of default supply. One finds the benefits of additional competition for small customers so minuscule that they are not worth their costs over the near future. Hence all these customers need is passthrough of PX prices, with regulators to determine when fuller retail competition is warranted. The other view says that utilities must be restrained from their desires to offer any but the simplest unhedged passthrough of PX prices. Any other initiatives toward default customers carry a strong potential for harm to competition.

Looking further into the future, there is substantial interest in experimentation with alternative ways of assigning the default obligation and regulating it. They open up new applications of the economic theory of auctions and of competition for natural monopoly franchises. Policies regarding the default seller will be critical for both the transitional and long-run efficiency of deregulated markets for electric power.

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