

FEDERAL TRADE COMMISSION

**V010003      Comments Regarding Retail Electricity Competition**

**Comments of Green Mountain Energy Company**

Pursuant to the Notice of February 28, 2001 of the Federal Trade Commission ("FTC") requesting public comment regarding certain aspects of retail electricity markets and regulation, Green Mountain Energy Company ("Green Mountain Energy") offers the following:

**A. About Green Mountain Energy**

Since its inception in 1997, Green Mountain Energy Company has been committed to using the power of customer demand to help change the way power is made. As a result of its activities in competitive markets to date, the company has spurred the development of several new renewable energy projects, including one of the largest wind farms on the East coast, the first new wind turbines to be built as a result of customer demand in California, and the largest solar array in the San Francisco Bay area.

Green Mountain Energy currently supplies cleaner and renewable electricity to residential, business and government consumers in California, Pennsylvania, New Jersey and Connecticut, and we plan to expand nationwide as more states open their energy markets to competition<sup>1</sup> Near-term plans include entering the Texas market when the state begins its pilot program in June 2001, and starting service in September 2001, to over 400,000 residential customers in Ohio pursuant to a six-year agreement with the Northeast Ohio Public Energy Council ("NOPEC"), a public electricity buying group which represents households across eight Ohio counties.

As a result of our experience selling electricity at retail in multiple markets over several years, we have developed strong views regarding the essential elements needed to support a vibrant competitive electricity market for small customers. Moreover, we recognized from the outset that how a state defined the rules would be important in determining the success or failure of competition in the state's retail electricity market. For these reasons, we have participated in legislative and/or regulatory proceedings regarding restructuring in all of the above-mentioned states and others, including New York, Massachusetts and Maryland. Similarly, we welcome the opportunity to share our experience and views with the Federal Trade Commission.

Green Mountain Energy regards the FTC's review of the issues surrounding retail electricity competition as an important opportunity. There is no question that this is a critical time for the industry. Recent events in California, high prices in wholesale markets across the country, and a variety of flawed state restructuring programs are making it increasingly difficult for competitive suppliers to deliver to customers the

benefits that would flow from free and fair competition. A number of states are delaying their restructuring programs or considering price control measures that are designed to protect customers but are more likely to kill off the competition that would provide the best long-term protection for customers. The industry needs leadership on the federal level to address directly the obstacles to competition that are within its control, and to provide guidance and encouragement to the states to address effectively those issues within their jurisdiction. We encourage you to use the information provided by Green Mountain and other market participants to press states to reform existing restructuring programs and implement new programs that will provide the benefits that competition can provide.

## **B. Creating a Vibrant Retail Market for Small Customers**

In Green Mountain Energy's experience, there are a number of essential elements that are needed to create a vibrant retail market for small customers:

1. Default service design and pricing mechanisms that supports price competition
2. Vibrant wholesale markets
3. Uniform business rules and standard data transaction sets
4. Customer-friendly sign-up mechanisms
5. Effective customer education
6. Strong codes of conduct
7. Well-designed aggregation programs
8. Supplier licensing requirements that do not create barriers to entry
9. Avoidance of restrictions on supplier service offerings
10. Effective environmental disclosure labels

Each of these elements is described below.

### **1. A Default Service Design and Pricing Mechanism that Supports Price Competition in the Retail Market**

While Green Mountain Energy competes primarily on the environmental characteristics of its products rather than price, our first priority for advocacy in states opening to competition is to urge them to create the opportunity for real price competition in the retail marketplace. This is absolutely critical to the development of the competitive market. It is, in the first instance, the realistic opportunity to offer customers lower prices that encourages suppliers to enter the market and customers to go shopping. That does not mean that all customers will choose their suppliers on the basis of price. As with holiday sales events, multiple suppliers advertising savings bring customers into the market; once there, they may choose based on any number of product or service features that appeal to them.

Green Mountain Energy's experience in multiple markets is that we need our competitors to help raise awareness of, and excitement about, consumers' opportunity to choose. Marketing efforts in states where there are many competitors have been much more productive than in states that support less competition. For example, Pennsylvania initially set default service prices that encouraged many suppliers to enter and compete, whereas California set default service prices that discouraged supplier entry. As a result, Green Mountain Energy had signed up more customers in Pennsylvania by the day the competitive market opened than we had signed up in California after nearly a year of marketing there.

The key to establishing price competition lies in the design and pricing of default service, sometimes also known as standard offer, basic generation, or Provider of Last Resort (POLR) service.<sup>1</sup> The two fundamental questions are: (1) do non-choosing customers remain on utility service; and (2) what price does the non-choosing customer see. The relative merits of various default service designs and pricing mechanisms are described in the National Energy Marketers' Association's ("NEM's") *National Guidelines for Designing and Pricing Default Energy and Related Services*, to which Green Mountain Energy contributed and a copy of which is attached. We will not repeat the paper's conclusions or recommendations at length here, but we would like to reinforce the following key points:

- A competitive process should be established for acquiring default service customers. Mandating the selection of the incumbent utility for all non-choosing customers, as is currently done in most states, including New York, New Jersey, Ohio, Maryland, and California, creates a barrier to entry for new suppliers, particularly in combination with a non-competitive price for default service. Representative assignment of customers to competitive suppliers or the award of default service to multiple suppliers through a bidding process, can increase market diffusion and improve the ability of suppliers to spread costs, reach scale and compete on the basis of price. Green Mountain Energy favors an assignment mechanism, such as that utilized in the telephone market in the mid-1980s and, more recently, in the Atlanta Gas Light service territory, to accomplish that end. If needed, a much more limited POLR service should be developed to address situations like suppliers going out of business.
- Default service prices should reflect the costs of providing generation and related services to customers at retail, and should not produce artificially low or cross-subsidized price signals. All suppliers, including default service providers, incur costs to provide generation service to customers at retail in addition to the wholesale cost of the energy commodity. For electricity, these costs include transmission charges, scheduling and control area services, distribution system

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<sup>1</sup> Most states use these terms interchangeably, or use their own unique definitions. Some draw a useful distinction between "default service" and "provider of last resort." These states define "default service" as service for non-choosers, i.e., the service that customers receive "by default." They define "provider of last resort" as service for customers that have no other option, e.g., customers whose supplier has suddenly exited the market. The Notice Requesting Comments appears to define these terms in the opposite way. See "Retail Pricing Issues," question 1.

line losses, a share of pool operating expenses, risk management premiums, load shape costs, commodity acquisition and portfolio management, working capital, taxes, administrative and general expenses, the costs of metering, billing, and collections, bad debt, information exchange, compliance with consumer protection regulations and customer care.

In many states where the utility is the default service provider, these costs of providing energy are concealed in the utilities' distribution rates. In these states, the default service price is simply the wholesale power cost. This does not benefit default service customers, who are paying the retailing costs within the distribution component of their bills. It does, however, penalize customers who switch, since they must pay twice for the same services – once to their competitive supplier in the generation price and once to the utility in the distribution rate. Moreover, such prices have a predictable and devastating effect on competitive suppliers who are unable to compete with the utility default supplier's subsidized rate.

California's adoption of this wholesale pass-through mode for default service pricing doomed its retail market to failure, and ensured that there would be an insufficient number of suppliers available to serve customers when wholesale spot-market prices started to spike. Other states, such as Maryland, Massachusetts, New Jersey, and Rhode Island, that have established default service rates administratively have failed to undertake the disciplined unbundling of costs that would identify and quantify the retailing costs described above, and have, in Green Mountain Energy's view, set inappropriately low default service rates. On a more positive note, some states, including New York, have recently acknowledged the need for a "retail adder" to reflect such costs. While we may disagree with initial estimates of the value of such an adder, recognition of the concept is an important step.

- Default service pricing mechanisms should account for changing market conditions. It has become clear in California that having fixed retail prices in combination with unrestrained wholesale prices is not sustainable on a long-term basis, for utilities or suppliers. Many jurisdictions today, including Pennsylvania, New Jersey, Ohio, Connecticut and Maryland, have fixed, administratively determined default service rates, which are putting strain on competitive suppliers, as well as on utilities that have divested generation but retained responsibility for providing default service, in a time of wholesale market volatility. Default service pricing mechanisms that change over time in response to market conditions better reflect real competitive markets, send better price signals to customers and help level the competitive retail playing field.

- Default service should not be designed to address the needs of people with low incomes; separate, additional programs should be designed and implemented for this purpose. There is no question that the needs of low-income customers must be met in the restructuring process. However, it is unwise to allow concerns that these customers will end up on default service to drive, explicitly or implicitly, the design and pricing of that service. Instead, specific programs should be designed to better serve the needs of low-income customers and to facilitate the targeting of public benefits funds for this purpose. Otherwise, the default service price is set artificially low for all customers, with the negative effect on customers and the market described above.

## **2. Vibrant Wholesale Markets**

Effective retail markets rely on effective wholesale markets. Please see the comments of the Electric Power Supply Association for guidance on promoting the competitiveness of wholesale markets. We would like to emphasize here that the converse is also true: wholesale markets function most effectively when there are multiple strong players in the retail market, not all of whom are affiliated with an incumbent utility. Lack of retail competition means that wholesale prices provide inaccurate price signals regarding the need for and optimal characteristics of new generation projects, ultimately leading to inefficiencies and higher prices for customers. In addition, too few retail market participants acting as *de facto* monopolies increase the ability of upstream players with market power to pass on price increases. For an amplification of these arguments, please see the attached article from London Economics, *Role of Vibrant Retail Electricity Markets in Assuring that Wholesale Power Markets Operate Effectively*, London Economics (June 1999).

## **3. Uniform Business Rules and Standard Data Transaction Sets**

In every state and utility restructuring program there are a plethora of nuts-and-bolts operational rules affecting how market participants interact with each other – rules governing how a customer signs up for service with a new supplier; how, when and in what format information about the customer and his usage is exchanged between the utility and the new supplier; who renders bills, and what information those bills must contain; how partial payments are allocated; and how customer complaints are handled. Today, these rules are not consistent from state to state; in some places, like New York, they are not even consistent from utility to utility.

The extent to which operational rules vary across utilities and states has a significant impact on the cost and complexity of back-office systems needed to serve customers, as well as on the quality of service to those customers. Particularly in the mass market, which is heavily transactional in nature, it is virtually impossible for a supplier to achieve a national scale, with the accompanying efficiencies and cost-savings, if basic operating rules are different from state to state. Uniformity, along with use of advanced technology, is especially important in the area of data exchange among market

participants. A failure to adopt standard data transaction sets that are uniform across jurisdictions imposes a significant barrier to entry.

Recently, a voluntary, collaborative process sponsored by the Coalition for Uniform Business Rules, the Edison Electric Institute, the Electric Power Supply Association and the National Energy Marketers Association produced a report entitled "Uniform Business Practices for the Retail Energy Market." The report provides significant guidance to states in addressing operational issues in a way that is consistent across jurisdictions. It can be accessed electronically at [www.ubpnet.org](http://www.ubpnet.org). Green Mountain Energy urges the FTC to encourage states to carefully consider this document when establishing and/or revising their restructuring programs.

#### **4. Convenient and Secure Customer Sign-up Options**

It is Green Mountain Energy's experience, confirmed by research from the Wattage Monitor and other sources, that convenience and ease of switching is an important factor affecting the willingness of small customers to try a new supplier. Experience in the competitive energy markets of California and Pennsylvania demonstrate that customer convenience can be expanded and consumer protection served through alternatives to a written signature. Convenient and secure customer sign up options may include: Internet transactions, inbound calls from a consumer to a supplier, and outbound telemarketing. Conversely, Green Mountain Energy delayed by several months its entry into New Jersey primarily because of that state's "wet signature" rule requiring a handwritten signature to authorize a change in service provider. The rule prohibits telephonic enrollments - - whether inbound or outbound calls, and, until enactment last Fall of the federal electronic signature law, also restricted Internet signups. While we did eventually enter that market, it remains a challenging environment since one of the primary channels that customers use for conducting business - the telephone - is not available to them or to us. Several elements of the typical enrollment process - - combined with state licensing requirements - - provide convenience to customers without sacrificing consumer protection. For example, in most jurisdictions marketers who sign up customers for service without legitimate authorization - - known as slamming - - face substantial monetary fines for every incident, and the potential revocation of a license to do business in that state. Suppliers must obtain a customer's utility account number in order to process an enrollment for service. There's usually only one way for a supplier to get that information: from the customer. A customer's personal account number is a well kept secret - - like a credit card PIN - - and the best protection against illegal slamming. Beyond the customer account number, consumers can be protected from slamming by such safeguards as voice verification of all telephone transactions and instant electronic confirmation of Internet sign ups. Additionally, customers have a set period of days to rescind or report an unauthorized switch upon receipt of a written switch notice from their utility company.

## **5. Effective Customer Education**

Education is very important for small customers, and should be timed for maximum impact at the opening of the market (assuming that suppliers show up) and at other important choice points, in coordination with suppliers' collective marketing efforts, to the extent possible. We recommend that these campaigns be handled by professional public relations firms and directed by regulators with guidance from all market participants. The program should be objective and neutral. Customer education should not be left to utilities, which have no particular expertise in the area and which may be ambivalent about promoting competition. The message should be simple and focused initially on making customers aware of their ability to choose, the potential benefits of choice including savings, service options and environmental considerations, and the mechanics of choosing. It should also assure customers that the reliability of their delivery service will not be impacted by their choice of supplier. These messages should be reinforced and new messages may be added as the market develops over time.

Several early customer education programs, including those in Massachusetts and New Jersey, suffered from an over-emphasis on the customer's ability to do nothing and still enjoy lower prices as the result of restructuring. Such campaigns do little to encourage customers to embrace choice and the benefits it offers. In contrast, Pennsylvania implemented a very upbeat customer education effort that featured the Governor, the Chairman of the PUC and the state Consumer Advocate, all touting the benefits of choice, with Ben Franklin signing up for choice in a ceremony kicking off the start of competition.

In addition, customer education programs can be successful only if the underlying market conditions support competition. For example, if the default service price is too low to enable suppliers to offer competitive alternatives, no amount of customer education will stimulate the market.

## **6. Strong Codes of Conduct**

Green Mountain Energy welcomes affiliates of utilities to participate in competitive markets. As stated above, Green Mountain Energy's experience has shown that the most successful markets are those with the most competitors.

However, an affiliate operating in the service territory of its affiliated utility creates the potential for anticompetitive conduct, particularly at the outset of competition. As the FTC staff has previously acknowledged,<sup>2</sup> and we agree, structural solutions are more effective than behavioral controls in preventing utilities from favoring or cross-subsidizing their affiliates, and we encourage adoption of structural solutions wherever possible. We further believe that rules impacting affiliate relationships are also needed to level the competitive playing field. Without such rules, affiliates may seek to capitalize

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<sup>2</sup> *Staff Report: Competition and Consumer Protection Perspectives on Electric Power Regulatory Reform*, Federal Trade Commission (July 2000).

on their relationships with incumbent utilities by, for example, suggesting to customers that the affiliate's service is more reliable than that of another supplier because of its relationship with the utility or establishing links between the utility and affiliate websites.

A related problem can arise when the utility itself takes advantage of its monopoly status and access to customer information to encourage customers to remain on the utility's default service. In these cases, it is the utility itself, rather than an affiliate, that is "competing" unfairly with competitive suppliers. This was a significant problem in the PECO service territory in Pennsylvania at the opening of the market there: the utility's behavior in that instance was the subject of a complaint brought before the Commission by the Mid-Atlantic Power Supply Association. Mid-Atlantic Power Supply Association, et al. v. PECO Energy Company, PA PUC Docket Nos. C-00981846; C-00982011; C-00981862; and P-00981615. Codes of conduct should address these situations as well.

## **7. Well-Designed Aggregation Programs**

Aggregation programs provide an effective method for small customers to combine their buying power to reap the benefits of choice. These programs also offer opportunities for suppliers to enter states where the default service rates otherwise make competition for small customers very difficult. We believe that "opt-out" aggregation programs, along the lines allowed in the electricity market in Ohio, are much more efficient and likely to produce competitive bids than "opt-in" aggregation programs.

For example, as a result of the successful Northeast Ohio Public Energy Council ("NOPEC") opt-out aggregation program, beginning September 1, 2001, Green Mountain Energy will offer over 400,000 Ohio residential customers, both cost savings and generation from sources such as natural gas and solar that are cleaner than typical system power. Specifically, Green Mountain Energy will provide, on behalf of NOPEC customers, a product containing 98% natural gas and 2% new<sup>3</sup> renewable landfill methane generation. In addition, Green Mountain has committed its best efforts to facilitate the development of Ohio's first commercial wind facility, targeted at 10 MW, commercial solar installations totaling 100KW, and 8 "Solar On Schools" facilities – one on a school in each of the NOPEC member counties.

States should be encouraged to consider aggregation programs like Ohio's that have the potential for providing benefits to small customers and moving them into the competitive market in large numbers.

## **8. Supplier Licensing Requirements that Do Not Create Barriers to Entry**

Green Mountain Energy is licensed to sell electricity in six states: California, Pennsylvania, New Jersey, Connecticut, Ohio, and Texas. In our experience, many licensing requirements are reasonable and help to ensure that active suppliers have the

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<sup>3</sup> Placed in operation after January 1, 1997.

minimum qualifications necessary to provide service. However, some licensing requirements do more to create barriers to entry than to protect consumers.

For example, a requirement that an electric supplier have an office in the state imposes costs on the supplier but does little to help consumers. Certainly customers are not clamoring for the opportunity to visit the office to “see” the electricity! It is reasonable for state PUCs to require that suppliers make customer records and other information available upon reasonable notice, but there is nothing to be gained by requiring suppliers to maintain a local office.

Some states also impose burdensome security requirements, requiring suppliers to post a sizeable bond or letter of credit. States often add to this burden by allowing utilities to impose equal or greater security requirements on suppliers as a condition of doing business in the utility service territory. These security requirements affect small firms most severely, tying up credit that could be better used to build a business and serve customers. Indeed, the large suppliers, those whose parents have investment grade bond ratings, e.g., utility affiliates, are sometimes exempted from the security requirements. This of course puts small firms at a competitive disadvantage.

#### **9. Avoidance of Restrictions on Supplier Service Offerings**

Many competitive retailers create value for customers by providing enhanced services. A common example is enhanced billing service. Green Mountain Energy, for example, offers its customers electronic billing service we call “tree free” billing.

However, some states restrict the ability of suppliers to provide enhanced billing service. There are three potential billing options: 1) a combined bill from the utility; 2) separate bills from the utility and the competitive supplier; and 3) a combined bill from the supplier. Some states, such as California, allow all three. However, other states, such as Massachusetts, prohibit the third option – the combined supplier bill – and allow only the utility to provide a combined bill. Since customers far and away prefer a combined bill, this restriction effectively prevents suppliers from providing an enhanced billing service and limits their ability to create value for customers. Connecticut goes even further in mandating a combined bill from the utility. This restriction further limits the mechanisms suppliers can use to communicate with their customers.

#### **10. Effective environmental Disclosure Labels**

As a supplier specializing in offering cleaner and renewable energy resources, Green Mountain Energy has considerable experience with utilizing environmental disclosure labels in competitive electricity markets. We offer the following comments based on that experience.

The fundamental purpose of electricity labeling requirements is to enable consumers to make educated purchasing decisions that reflect their personal preferences. A number of states have created “environmental disclosure” or “electricity facts” labels,

which they believe will allow consumers to more easily compare electricity products, on an “apples to apples” basis.

One might assume that such labels would be helpful to renewable energy marketers, as consumers become educated about how their electricity is generated and the environmental impact of such generation. While Green Mountain Energy encourages any tool designed to educate consumers with regard to renewable energy, the market has not clearly demonstrated, nor has any party thoroughly researched, whether this threshold assumption is true – that environmental disclosure labels are relied upon, or even read and understood, by consumers who weigh the benefits and options of the competitive market. This is a critical piece of work that must be undertaken if disclosure labels are to be effective, and if states and regions are to agree on uniform labels which have the greatest impact on consumers. Simply put, market participants (including regulators) have insufficient data with which to judge the effect of such labels on consumer decision-making.

Early efforts at determining consumer sensitivity to environmental disclosure labels were undertaken by consumer groups, including the Regulatory Assistance Project (“RAP”) of Gardiner, Maine. In its twelve part *The Consumer Information Disclosure Series*,<sup>4</sup> RAP conducted focus group studies across the United States. Conducted in the fledgling competitive markets of 1997, the series observed that consumers demand simplicity in disclosure labels. Participants indicated that label overload should be avoided. These early studies also suggested that consumers prefer information to be displayed in a “table” as opposed to “pie-chart” format. Other, more general, observations included: (1) a broad lack of awareness concerning the region’s generation sources, (2) an interest in understanding which sources comprise “system power” (the general descriptor of “system” was poorly received and found to be misleading), and (3) a suggestion that information disclosure be brief – a maximum of two pages. Finally, it is important to note that in all studies, participating consumers desired uniformity among labels so that they would be able to make meaningful and useful comparisons.

While the RAP focus groups were helpful in making recommendations on the eve of competition in several states, Green Mountain Energy believes that there is a considerable need for further comprehensive research that explores whether labels are read and understood by consumers trying to navigate the competitive marketplace. Are consumers reading and understanding labels? Are consumers receiving a message via environmental disclosure labels? Is it the same message intended by regulators? Do consumers believe that emissions, or other attribute information such as nuclear waste, should be included in addition to “fuel source” on disclosure labels? These questions and others must be answered.

The results of such research will benefit consumers, marketers, and states implementing choice programs. For example, if it is learned that consumers still believe that tables present information more clearly than charts, and that label overload is a

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<sup>4</sup> David Moskovitz et al., *The Consumer Information Disclosure Series*, National Council on Competition and the Electric Industry (1997 – 1998), available on the web at [www.rapmaine.org](http://www.rapmaine.org).

paramount concern, then Ohio and Illinois can learn lessons from California's labeling requirements. If consumers have become most concerned with how product disclosures are verified, then states in the Mid-Atlantic, the Mid-West, and the West would be advised to draw on the recent work done in New England and Texas to establish comprehensive tradable certificates programs. In order to effectively educate consumers and respond to consumer demand, significant efforts must be made to understand the impact and potential of environmental disclosure labels.

We believe that the federal government can play a pivotal role in filling this information void, and we respectfully suggest that the FTC is well positioned to conduct this research. In addition to the lessons described above, we believe that more complete consumer information will support efforts towards environmental disclosure label standardization and the ultimate success of such labels.

We look forward to learning from the results of the research described above. In the interim, based on our experience in providing environmental disclosures in California, Pennsylvania, New Jersey, and Connecticut, we offer our view that an effective environmental disclosure program should contain the following components:

- A unique label should be produced for each product. Multiple products should not be aggregated under a single company-wide label if consumers are expected to use the label as a tool to distinguish and select retail products.
- Each label must include the product's portfolio of fuel sources.
- Emissions disclosures should be included to the extent that they do not make the label overly complicated or cost prohibitive. They should only be included if research, such as the study we propose above, supports inclusion.
- Information should be provided to customers prospectively upon enrollment, with an annual report of actual delivery. Such reports should be based on an annual matching of customers' use and generation, as supported by both the FTC's "Guides on the Use of Environmental Marketing Claims" and by the National Association of Attorney's General in its December 1999 "Environmental Marketing Guidelines for Electricity".
- Disclosure protocols should allow for the claiming of imports from neighboring power pools. When combined with regional approaches to verification, this will promote standardization.
- Labels must be mandatory for all providers. If necessary, the use of default labels should be allowed in order to promote effective disclosure. Allowing providers of last resort and retailers making no environmental claims to use a default label ensures a workable system that best allows consumers to make meaningful comparisons among all market participants.

Finally, it bears repeating that an issue of utmost importance to Green Mountain Energy is uniformity. Research along the lines described above should encourage regions to coordinate among themselves, with one another, and with third-party consumer groups like Green-e to develop uniform disclosure standards that are read, understood, and used by consumers in making educated purchasing decisions.

We thank you for the opportunity to comment on these important issues.

Respectfully submitted,

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**National Guidelines  
for  
Designing and Pricing  
Default Energy  
and  
Related Services**



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# Table of Contents

<b>I</b>	<b>Introduction.....</b>	<b>1</b>
<b>II</b>	<b>Background .....</b>	<b>1</b>
<b>III</b>	<b>Default Service Design.....</b>	<b>5</b>
	<b>Utility Retains Default Customers</b>	
	<b>Default Customers Transferred to Another Supplier</b>	
	<b>Default Service Awarded Based on Revenue Bids</b>	
	<b>Default Service Awarded Based on Price Bids</b>	
<b>IV</b>	<b>Default Service Pricing.....</b>	<b>7</b>
	<b>Wholesale Prices Adjusted to Reflect Retail Service Costs</b>	
	<b>Periodic Rate</b>	
	<b>Fixed Rate</b>	
	<b>Index Rate</b>	
<b>IV</b>	<b>Approaches to Default service: An Assessment.....</b>	<b>9</b>
<b>IV</b>	<b>Principles to Guide the Design of Default Service .....</b>	<b>10</b>
	<b>Design Default Service to Maximize Customer Choice and Minimize Default Service Customers</b>	
	<b>Establish a Competitive Process for Acquiring Default Service Customers</b>	
	<b>Design Default Service Mechanisms that Reflect Retail Prices, and Do Not Produce Artificial or Cross-Subsidized Price Signals</b>	
	<b>Price Default Service Separately for Each Customer Class</b>	
	<b>Design Default Service Pricing Mechanisms to Account for Changing Market Conditions</b>	
	<b>Design Specific Programs to Address Low-Income Needs; Do Not Try to Utilize Default Service for this Purpose</b>	
	<b>Utilize Default Service Only as a Transition Mechanism</b>	
<b>IV</b>	<b>Conclusion.....</b>	<b>12</b>

## **I. Introduction**

**The National Energy Marketers Association (NEM)** is a national, non-profit trade association representing a regionally diverse cross-section of both wholesale and retail marketers of natural gas and electricity. NEM also represents producers, generators, transporters, and marketers of energy-related information, services and technology throughout the United States.

NEM is committed to working with representatives of state and federal governments, large and small consumer groups and utilities to devise fair and effective ways to implement restructuring of natural gas and electricity markets. NEM and its members appear before state Public Utility Commissions, the Federal Energy Regulatory Commission and legislative bodies throughout the nation. NEM members urge lawmakers and regulators to implement:

- Laws and regulations that open markets for natural gas and electricity;
- Rates, tariffs and operating procedures that lower the cost of energy;
- Standards of conduct that protect consumers;
- Rules to permit competition on the basis of price and quality of service; and
- Policies that encourage new technologies, including the integration of energy, telecommunications and Internet services.

## **II. Background**

Over the last two decades, a number of key industries vital to the U.S. economy have been successfully restructured by introducing competition as an alternative to regulated monopolies. As a result, these industries have experienced significant reductions in prices charged to consumers, along with efficiency, innovation and productivity gains. In telecom, trucking and air travel, cost savings to consumers have averaged forty percent. Given the size and importance of the U.S. market for energy and related services, products and technologies, total benefits to consumers and the economy to be realized through vibrant retail competition are substantial. If the promise of restructuring is to be fully realized, however, markets must be designed to foster competition.

In that regard, one of the most important issues confronted in the restructuring of U.S. energy markets is the design and pricing of what is referred to as "default service." Default service, also known as standard offer or basic generation

service<sup>1</sup>, refers in the broadest sense to the service provided to those customers in a competitive market who are not receiving energy supply services from a competitive supplier for any number of reasons, including a simple failure on the part of the customer to select a supplier. This paper explores the impact of default service design and pricing on the development of competitive markets.

Historically, utilities have been given a regulated return on capital invested in generation, transmission and distribution systems in exchange for an “obligation to serve” the public. This historic obligation has encompassed what is recognized in the context of a restructured utility industry to be two distinct commercial services: the supply of natural gas or electricity (referred to jointly throughout this paper as energy) and the transportation or distribution of that energy. NEM submits that in a restructured environment the obligation to serve should be converted into an obligation to deliver. That is, while the utility should and will continue to provide transportation or distribution service for all customers, it is not necessary or desirable to establish the utility, on a long-term basis at least, as the default provider of energy supply services.

It is not necessary for the utility to act as the default service provider because marketers have the ability and experience to supply these services to customers. Marketers have long been involved in developing and aggregating generation and natural gas supply, and providing utilities with energy as a commodity. Indeed, in many cases marketers have supplied utilities with energy and related services on an outsourced basis for years, enabling those utilities to provide energy supply services. Neither is it necessary to establish the utilities as default service providers in order to allow those utilities the opportunity to compete for customers, or customers the opportunity to choose a familiar entity as their energy service provider. In a competitive environment utilities can form competitive subsidiaries and customers can affirmatively choose those subsidiaries as their suppliers. However, in a market that has opened to competition, an assumption that customers who have not selected a competitive supplier have made an affirmative decision to receive service from the utility is unwarranted.

Retaining the utility as the default provider of energy supply services long term in a restructured environment will have a negative impact on the development of competitive markets. The structure and pricing of default service are critically important issues in determining whether consumers will receive the benefits of meaningful price competition. When states mandate the selection of incumbent utilities for all consumers who fail to make timely supplier elections and set a non-competitive price for default service, they create a significant barrier to new suppliers and perpetuate the same non-competitive energy services that

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<sup>1</sup> The term “provider of last resort service” or “POLR service” is sometimes also used as a synonym for default service. Usually and more appropriately, however, this term is used to describe a much narrower set of responsibilities, such as, providing service on an emergency, interim basis when a customer has lost or been dropped by his/her supplier.

restructuring is designed to replace. It is also vital that states not select winners and losers in a competitive market. Automatically presuming that an entity affiliated with the incumbent utility should act as the default supplier in lieu of the utility itself grants that entity an unfair competitive advantage and violates the important principle that all market participants should be treated in a competitively neutral fashion. In contrast, the representative assignment of default service customers to competitive suppliers, or the award of default service to one or more suppliers through a bidding process, will result in increased market diffusion and an improved ability on the part of suppliers to spread costs and compete on the basis of price.

### **III. DEFAULT SERVICE DESIGN**

In the long term all consumers in restructured energy markets should be served by competitive energy service providers at prices that are set by the market, and it is desirable to get to that end state as quickly as possible following the opening of the market. An example of an approach that holds promise for accomplishing a quick transition to a fully competitive market is to assign customers to competitive providers after a limited period of time. Utilizing this approach, customers who have not selected a competitive supplier during a specified enrollment period are assigned to reliable suppliers based on the market shares of those suppliers. Although there may be some regulatory restrictions and requirements, the price and non-price attributes of the default service offer under this model are determined by individual suppliers and reflect efficient and true market conditions.

This process proved successful in accomplishing a quick transition in the long-distance telephone market in the mid-1980's. A similar program has been used in the Atlanta Gas Light service territory for natural gas. There are several benefits to such an approach. First, by allowing a period of choice prior to assignment, customers are engaged and, as shown in the Atlanta Gas Light program, many customers will choose competitive suppliers. A designated period for choice also provides customers with a powerful incentive to become educated on the process of choosing an energy supplier. In addition, such an approach ensures competitive neutrality among all the competitors in a given marketplace and allows consumers to enjoy the benefits of meaningful choice.

NEM believes that the assignment alternative to default service holds promise for customers and the competitive market. We also recognize that other methods will be considered. Regulatory bodies may not be prepared to implement such an approach at the opening of the market and will evaluate other alternatives to satisfying their own state's unique set of circumstances regarding default service. Other options for approaching default service fall into four general models and may be used in varying combinations and permutations, preferably for a brief interim period of time before all customers make the transition to a competitive market.

- **Utility retains default customers:** From a default service customer's perspective, competition has changed nothing. Customers continue to deal with the utility for all aspects of service. As indicated above, this approach is not a long term solution. When it is employed on a transitional basis, Commissions should insure that the transition plan:
- ◆ **maximizes** appropriate incentives for customers to choose competitive suppliers by allocating retail costs appropriately between the distribution rate and the energy supply service (i.e., default service) rate, thereby preventing customers from paying the retail cost component twice.
  - ◆ **minimizes** incentives for utilities to retain default service customers by ensuring that revenues in excess of commodity costs benefit all customers via lower stranded costs or distribution rates.
  - ◆ **educates** consumers on the benefits of competitive energy supply service options, including the potential for: innovative product offerings, including flexible pricing, billing and delivery options, and cleaner and renewable energy resources; multiple supply and purchase alternatives; and lower costs as the result of competitive price pressure among suppliers.
- **Default customers transferred to another supplier.** Under this approach default service is granted to an entity other than the utility, such as an affiliate or the buyer of the utility's generation assets. An automatic non-competitive transfer of customers to any other single entity (affiliated or unaffiliated) grants a substantial and unfair competitive advantage to one market participant and violates the concept of competitive neutrality. In addition, automatic transfer to a utility affiliate offers few, if any, advantages to the competitive market over leaving customers with the incumbent utility itself.

*(Please refer to NEM's Uniform Code of Conduct for Regulated and Unregulated Suppliers of Energy and Related Services and Technologies, National Guidelines for Restructuring the Electric Generation, Transmission and Distribution Industries and National Guidelines for Unbundling and Restructuring the Natural Gas Distribution Function for further guidance on this issue.)*

- **Default service awarded based on revenue bids.** This option puts the responsibility on the Commission to set the default service price. Suppliers then bid a dollar amount for the right to serve default customers at the price established by the commission. This revenue bid amount is then available to reduce stranded costs or offer other benefits to all distribution customers. While there are a number of benefits to this approach, an inherent problem

with this option is the difficulty and risk of forecasting prices into the future. From a competitive market perspective, the greatest risk is that the price will be set too low, presenting substantial risk to potential default service providers and limiting opportunities for the competitive market to offer pricing benefits to customers. If this approach is utilized, it is important that these dynamics are considered and that Commissions provide themselves with opportunities to reset the default service price (and rebid the service) periodically.

- **Default service awarded based on price bids.** This approach can represent significant progress toward establishing default service charges that reflect the competitive market for energy supply services. If it is utilized, however, it is important to ensure that the default service provider is responsible to the maximum extent possible for all of the retail functions and costs that impact competitive suppliers. Since a default service provider can avoid certain costs (such as marketing costs) and enjoy certain advantages (such as instant economies of scale), it is important to neutralize these advantages in order to allow a competitive market to flourish.

#### IV. DEFAULT SERVICE PRICING

If any combination of the models described above are employed, a regulatory body must implement and manage rules regarding the price of default service. The pricing of default service is critically important to the development of a new competitive market because the default service price serves as the “price to compare” – the target against which all competitive offers are judged by consumers. Default service must be priced at retail rates for each customer class. If the default service price is subsidized or set artificially low, i.e., if it does not reflect the true costs of providing retail generation service, true competition on the basis of price and quality of service will not be possible. Competitive suppliers will be challenged to cover their costs and offer products that provide value to customers. If the incumbent utility acting as the default service supplier is permitted to subsidize retail energy services by passing through wholesale price signals and embedding the retail costs of energy-related services in its distribution rate, a competitive marketplace cannot occur. Indeed, permitting utilities to maintain default service and offer false price signals in the process not only distorts energy price signals, but establishes a significant barrier to effective price competition by forcing customers who switch to competitive suppliers to pay twice for retail energy services. Under these circumstances fewer customers will choose competitive energy service providers, the utility’s market share will be maintained, consumers will not benefit to the degree they should, and competitive markets simply won’t develop.

There are four basic models that have been tried or considered for the pricing of default service. They are described below, beginning with the most competitive method and ending with the least competitive.

- **Wholesale Prices Adjusted to Reflect Retail Service Costs** - This approach starts with either a periodic rate or an index rate to determine a wholesale price and then includes the additional costs of providing retail energy services. The costs of providing retail natural gas service include pipeline capacity charges, no-notice service, city-gate delivery requirements, and related-commodity charges. For the electric industry the costs associated with retail services include transmission charges, scheduling and control area services, losses and pool operating expenses. For both industries retail energy services typically include the costs of risk management premiums, load shape costs, commodity acquisition and portfolio management, working capital, and taxes, as well as costs for administrative and general expenses, metering, billing, collections, bad debt, information exchange, compliance with consumer protection regulations, and customer care.
- **Periodic Rate** – A periodic rate is a pricing mechanism that relies on regulators, auctions or market mechanisms to set prices (either wholesale or retail) annually or at some other interval that allows for changes in market conditions. This is the approach taken in Arizona, Nevada, and Maine.
- **Fixed Rate** – Under a fixed rate mechanism the default service rate schedule is administratively determined for some period of years. The rate, which usually escalates over time, may be based on the embedded cost of utility generation, a speculative forecast of wholesale or retail prices over time, stranded cost recovery considerations and other factors. This is the approach taken in Massachusetts, Rhode Island, New Jersey and initially in Pennsylvania. Initial default service rates established in several utility service territories in Pennsylvania have helped to develop a competitive market in that state to date because the pricing structure has more realistically reflected the costs of providing retail services. However, escalating wholesale power costs are now presenting a challenge to suppliers competing with fixed default service prices. In contrast, default service rates in Massachusetts and Rhode Island were initially set at unrealistically low levels, thereby precluding any significant competitive activity in those states.
- **Index Rate** - The index rate relies on the wholesale marketplace to set the price of default service. Customers generally pay a monthly or billing period average of the spot market price. As applied in markets like California, customers do not avoid the overall higher costs associated with being served by a monopoly because the retail service component remains embedded within the distribution rate.

## V. APPROACHES TO DEFAULT SERVICE – AN ASSESSMENT

In natural gas, competitive markets are well developed for larger industrial and commercial customers. In those cases no default service is needed or provided for large, transportation customers. A number of large, small volume, gas transportation programs exist, particularly in Georgia, Illinois, Ohio, and New York; however, those programs are relatively new. Restructured electricity markets are also in the early stages of development. Nevertheless, several states have developed default service and pricing approaches that provide both negative and positive experiences and can offer guidance on the issue of how to structure default service to support competitive retail markets. Customer migration, i.e., the number of customers choosing a competitive supplier, is a key indicator of retail market activity.

Early evidence suggests that in those markets where default service pricing reflects the true costs of providing retail services rather than hiding these costs in distribution rates, markets are developing quickly, while markets that have subsidized or artificially low default service prices relative to retail costs are developing much more slowly. For example, in Massachusetts and, to a significant extent, in California, where default service prices at the start of competition were set at or below the wholesale cost of power (with other costs of providing generation service buried in the utility's distribution rates), few competitive suppliers are active and, after almost two years of competition, only .5% of customers in Massachusetts and 1.9% of customers in California have switched to competitive suppliers. In contrast, in Pennsylvania, where "shopping credits" (i.e., the prices to compare) in several of the largest utility service territories are more reflective of true retail costs, competitive suppliers are able to cover the costs of providing service and offer savings to customers. There many suppliers are active in the market and 10% of customers have switched after just one year of competition. The impact of competitively priced retail shopping credits is also apparent when customer migration rates are compared across utility service territories in Pennsylvania. In the PECO service territory, where the spread between the retail price for default service (shopping credit) and wholesale cost for power is greatest, the customer migration rate is approximately 16%, compared with migration rates for Allegheny Power and PP&L, where the retail-wholesale spread is much smaller, of about 1.9% and 3.6%, respectively.

It is also clear that the default service award structure has been important in the early stages of development of competitive, small volume, retail gas markets. Currently, the Atlanta Gas Light Choice Program, which requires all customers to either choose a supplier or be assigned one (as did the long-distance telephone program in the mid-1980s), has provided strong encouragement for customers to choose a supplier. It has also provided strong encouragement for suppliers to

compete in the market since they acquire a share of non-choosing customers based on their relative share of the market. As a result of this competitive assignment policy, as well as a market-driven retail-wholesale price spread, approximately 80% of customers chose a competitive gas supplier during the nine-month enrollment period.

While large volume, gas transportation markets are well developed in many states, and the number of smaller volume programs is on the increase, examination of both the utility's rate structure and terms of transportation service should be reviewed for proper cost allocation components. The success of those programs will continue to be based on the utility's pricing policies and the structure of the open access programs.

## VI. PRINCIPLES TO GUIDE THE DESIGN OF DEFAULT SERVICE

NEM does not believe that there is one right approach to restructuring energy markets, or one right design for default service. We do believe, however, that the goals of restructuring are achieved by the advancement of competitive retail markets, and that the constructs of default service and pricing are critical to that advancement. Furthermore, we believe it is now possible to identify some principles to guide the design of default service and pricing mechanisms to support development of a competitive market at the earliest possible date. Those principles are described below:

- **Design default service to maximize customer choice and minimize default service customers.** As noted above, suppliers are attracted to markets where they can compete successfully with default service on the basis of price. Customers, of course, are also much more likely to select a competitive supplier when there are many suppliers in the market advertising and offering a variety of products and services for sale. This is the basis for a robust, competitive market. Competitive retail default service prices and the distribution of default service customers to multiple competitive suppliers encourage customer migration.
- **Establish a competitive process for acquiring default service customers.** No one market participant should be granted an unfair competitive advantage in the provision of default service to customers. State-mandated selection or non-competitive transfers of customers at subsidized energy prices should be avoided at all costs. The opportunity to serve default service customers through a competitive process provides a public service in a manner that does not impose barriers to meaningful competition or distort the operation of competitive price signals.

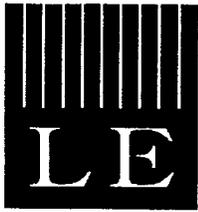
- **Design default service pricing mechanisms that reflect retail prices, and do not produce artificial or cross-subsidized price signals.** All suppliers providing generation and gas commodity service to customers at retail, including default service and competitive suppliers, incur costs to do so in addition to the wholesale cost of the energy commodity. These costs include: for natural gas, no notice service, pipeline capacity charges, city-gate delivery requirements, and related-commodity charges; for electricity, transmission charges, scheduling and control area services, and distribution system line losses; for both electricity and gas, a share of pool operating expenses, risk management premiums, load shape costs, commodity acquisition and portfolio management, working capital, taxes, administrative and general expenses, the costs of metering, billing, collections, bad debt, information exchange, compliance with consumer protection regulations, and customer care. Default service pricing mechanisms that hide the true costs of providing retail energy services, showing instead the wholesale power costs alone as the “price to compare,” do not benefit default service customers, who are getting a false price signal and are still paying the other costs to provide generation or gas sales service in the distribution component of the bill. They do, however, penalize customers who switch to competitive suppliers since those customers are paying for the retail costs of energy supply services twice. They also have a devastating effect on the competitive market, since competitive suppliers are unable to compete effectively on the basis of price with the subsidized default service option.
- **Price default service separately for each customer class.** The costs to provide default service varies by customer group. Properly designed default service prices should reflect these real price differences to encourage competition for all customer classes.
- **Design default service pricing mechanisms to account for changing market conditions.** While it is early in the development of competitive markets to have much concrete experience with this, there is a huge inherent risk for the retail market in a “price to compare” that does not change over time in response to changes in the wholesale markets. Such set prices put tremendous pressure on retail suppliers during periods of wholesale price volatility, and provide opportunity and motivation for generation owners, comprised largely of utilities, to “game” the wholesale market for competitive advantage. Default service pricing mechanisms that allow prices to change over time in response to wholesale market conditions better reflect real competitive markets, provide more accurate price signals, and help level the competitive retail playing field.
- **Design specific programs to address low-income needs; do not try to utilize default service for this purpose.** Often, concerns that low-income individuals will be unwelcome in the competitive market drives, explicitly or implicitly, the design and pricing of default service. This approach serves

neither low income customers nor the development of a competitive market well. Specific programs should be designed to serve low-income needs and to facilitate the targeting of public benefits funds. Such programs might include aggregation of low-income customers to access lower prices in the competitive market, perhaps with subsidies or guarantees of payment that would ensure the lowest-cost supply for these customers.

- **Utilize default service only as a transition mechanism.** Default service can be a useful mechanism for insuring a smooth transition to competitive markets. However, it is not needed on a permanent basis. To the extent that there are, or are perceived to be, long-term needs for some of the functions filled by default service providers today, such as providing a mechanism to supply and bill customers who have been dropped by their current supplier for some brief interim period, those needs should be addressed directly or default service should be redefined and circumscribed to address just those needs (i.e., a true provider of last resort function).

## VII. CONCLUSION

Because of the importance of default service design and pricing to the development of competitive retail energy markets, NEM urges Commissions and legislators to carefully consider the issues raised in this paper in crafting their restructuring plans. Where settlements and/or transition plans are already in place that attempt to balance the interests of market participants, there may be less flexibility to accommodate these concerns during the transition period. Opportunities for modifying default service plans without disrupting existing settlements, however, should be explored where necessary to enhance the competitiveness of the market. In addition, in most states, Commissions still have to determine what provisions should be made for default or POLR service after the transition period. At that stage Commissions have another important opportunity to redesign default service into a limited (and competitive) POLR service and to allow the competitive market to better serve the energy needs of consumers.



LONDON  
ECONOMICS

Briefing note:

## Role of vibrant retail electricity markets in assuring that wholesale power markets operate effectively

*prepared for Green Mountain Energy*

June 30, 1999

### 1 Executive summary

Over the past five years electricity market restructuring has been focused predominately on creating efficient wholesale commodity markets. Considerably less attention has been paid to the retail market's impact on overall customer benefit from electricity restructuring. As evidence from California, Massachusetts, and Pennsylvania demonstrates, vibrant retail electricity markets are critical in assuring that final customers receive the full benefits of competition in wholesale electricity markets. The ongoing restructuring process taking place in most states provides policymakers with a unique opportunity to design durable mechanisms for ensuring competition at the retail level. Failure to provide for vibrant retail markets means that such markets will be distorted as they respond to incomplete price signals, limiting price transparency and customer choices. In addition, a weak retail market will exacerbate the ability of key players to pass price increases through to final consumers, magnifying the effect of wholesale market concentration.

The sections below discuss the dynamic relationship between retail and wholesale markets in greater detail. We provide a brief analysis of the economic fundamentals, summarized below, and highlight several examples from the software, telecommunications, aircraft manufacturing, and gasoline retailing industries which substantiate concerns about dynamic efficiencies, vertical control, and suppression of new entrants. Key points are as follows:

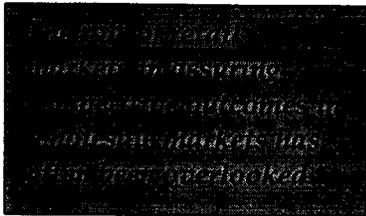
- Wholesale market concentration and incomplete price signals can distort retail markets and reduce customer benefits.
- Wholesale market concentration and incomplete price signals can distort retail markets and reduce customer benefits.
- *Role of vibrant retail competition means that wholesale markets should be designed regarding need for new build, desired technologies, and incentives to invest in new plants, efficiencies, and higher retail prices to consumers, and*
- *under wholesale price pass-through and poorly designed shopping credits, retail markets, wholesale market institutions and/or default suppliers, however, do not guarantee increasing the ability of upstream players with market power to pass on price increases.*

Policymakers can contribute to instituting true retail competition by avoiding wholesale price pass-through, setting shopping credits high enough to reflect the true costs of providing retail service, and by isolating legislated rate cuts to the wires portion of the customer's bill. These

measures will help assure that customers enjoy the full benefits of retail competition, including lower prices for products consumers actually want, more choices in products and services, and access to new technologies.

Throughout this paper we use the term efficiency to denote a functioning market in which buyers and sellers receive accurate and timely price information with limited transaction costs. While a wholesale price pass-through model may appear to be efficient in this sense, it is only superficially so. The wholesale price pass-through model fails to provide consumers with products they actually want by limiting the margins available to new retail entrants. It thereby actually raises transaction costs for those customers looking for customized billing options, new technologies, and cost-effective risk management structures. This has a disproportionate impact on small consumers, who become more exposed to fluctuating wholesale prices.

## 2 Importance of retail markets to competition in wholesale markets



During the process of restructuring the US electricity sector, much of the regulatory attention to date has been focused on creating efficient wholesale energy markets. Regulators have assumed that prices to final consumers would fall, or increase at a slower rate, if competition in wholesale energy markets could be assured. Much effort has gone into designing market surveillance mechanisms, assessing potential bidding behavior, and analyzing the implications of price caps. However, the role of retail markets in assuring competition in wholesale markets has often been overlooked.

Vibrant retail electricity markets contribute to competitive wholesale markets in several ways:

- First, they contribute to dynamic efficiency by improving the information conveyed by the price signals provided by wholesale markets.
- Second, competitive retail markets reduce the potential for *de facto* vertical control, weakening the ability of wholesale players to pass price increases through to final consumers.
- Third, the existence of multiple credible players in the retail market contributes to the ability of new entrants to generation markets to obtain contracts for their output, thus improving the ability of new entrants to attract financing and therefore complete their projects.

There is limited experience with retail competition in electricity in North America. In the states and provinces which have instituted retail competition or are planning to do so in the near future, two broad models have appeared. The first, called wholesale price pass through, links the default supply alternative with a floating market price relevant for the geographic region in question. This is similar to the procedure adopted in California. The second, referred to as the shopping credit model<sup>1</sup>, provides customers with a credit on their monthly bills which is related to the cost of generation services which was previously part of the bundled cost of service. The level of the shopping credit is a key determinant of the number of participants in the retail market. Pennsylvania is one state which has adopted this model.

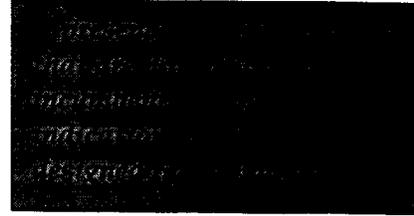
An electricity market which is open for competition does not in itself create a vibrant retail market. California's wholesale price pass-through creates an artificial price to compare, the wholesale commodity price. Because the wholesale price is only one component of the many costs of providing retail service, this artificial price comparison actually serves as a barrier to entry for new retail suppliers. In contrast, Pennsylvania's shopping credit model creates a price

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<sup>1</sup> The shopping credit model is sometimes referred to as the "price to compare" in some of the public policy literature.

to compare which mimics a retail price which includes all of the cost components of retail supply, rather than only the wholesale component.

A vibrant retail electricity market can be described as one in which market share is divided among five or more significant players, of which no single player controls more than 20% of the customer base but several control 5% or more. A number of these players should be unaffiliated with the incumbent utilities. These market share criteria broadly reflect the guidelines of which Federal competition regulators<sup>2</sup> use when assessing market concentration, and are intended to provide a marketplace in which no one player dominates.



The 5% market share level is consistent with the number of customers a retailer in a market the size of Pennsylvania's needs to begin capturing economies of scale. The presence of participants without substantial ties to incumbent utilities indicates that sufficient measures have been taken to curb any unfair advantage conferred by identification with incumbents' existing brands and reduces the potential for abuse of vertical linkages between incumbent generators and their retail affiliates. While by these measures no US retail electricity market has yet reached a point that could be characterized as vibrant, Pennsylvania appears to be the state in which such a market is most likely to evolve.

In the US, the retail markets which have shown the least amount of sustainable entry have been those which featured either a wholesale-price pass through mechanism (California) or those in which the shopping credit was set inappropriately low (Massachusetts, see Figure 1). Wholesale price pass through systems give the appearance of reducing transaction costs in the short term, but actually increase such costs over the long term. This is because retail entrants refuse to enter markets where they essentially must sell power at a loss relative to the wholesale price to entice customers to switch, while at the same time, they must incur additional costs for marketing, billing, and customer support. The lack of retail entrants reduces the availability of innovations such as flexible payment plans, fixed price contracts for small customers, and combined power supply and energy services contracts.

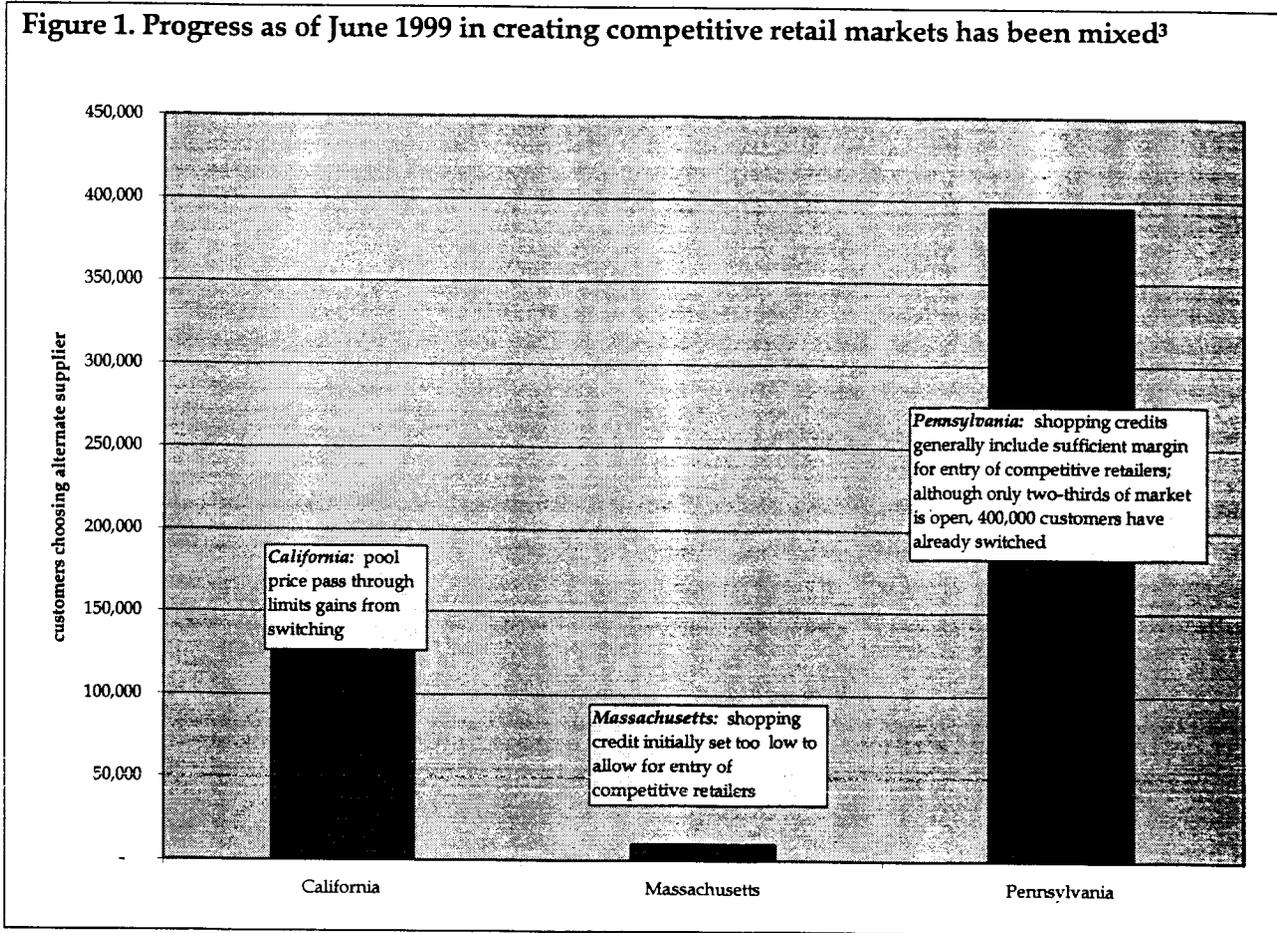
In effect, the wholesale market becomes a monopoly supplier to retail customers. This tends to magnify the effects of any concentration that exists at the wholesale level, potentially further increasing costs to final consumers. The California Power Exchange, from which utilities serve customers who have not switched, supplies nearly 99% of small retail customers in the state. Besides the green power option offered by companies like Green Mountain, few product or service choices are being offered to small customers. The opportunity to offer price savings would attract more competitors into California. An adder to the wholesale price which would accurately account for additional costs associated with retail would force players to compete on an equal footing, ultimately forcing suppliers to further differentiate themselves in terms of

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<sup>2</sup> We refer here to regulatory bodies such as the Federal Trade Commission and the US Department of Justice.

price and product offerings. This would result in more choices, convenience, and ultimately higher savings over the long run.

**Figure 1. Progress as of June 1999 in creating competitive retail markets has been mixed<sup>3</sup>**



Artificially low shopping credits, such as those in Massachusetts, have had a similar effect. Failure to accurately account for embedded advantages in billing, customer acquisition, and supporting infrastructure in the shopping credit places competitive suppliers at a disadvantage relative to incumbents. This further entrenches existing players, significantly limiting the potential for customers to fully benefit from retail competition.

*...price pass-through  
...provide elements  
...value, such as  
...flexible billing,  
...customized power blends...*

Vibrant retail electricity markets reduce total costs to consumers. Markets which provide cheap products that customers do not want cannot be said to be truly efficient. Thus, a wholesale price pass-through model may appear to provide low prices, but fail to provide

<sup>3</sup> Massachusetts opened its market to competition thirty days prior to California and has seen even less retail marketing activity. However, the price to compare or “shopping credit” in Massachusetts increases over time, potentially creating more space for competitive retailers as time goes by.

elements that customers value, such as price certainty, flexible billing, and customized power blends. Since the price for these components is prohibitive in the absence of multiple retail players, total costs to consumers are actually *higher* than in jurisdictions with more vibrant retail markets. This is even before accounting for the impacts of virtual vertical integration on the potential for collusive upstream behavior, which makes it less likely that prices will be low at all.

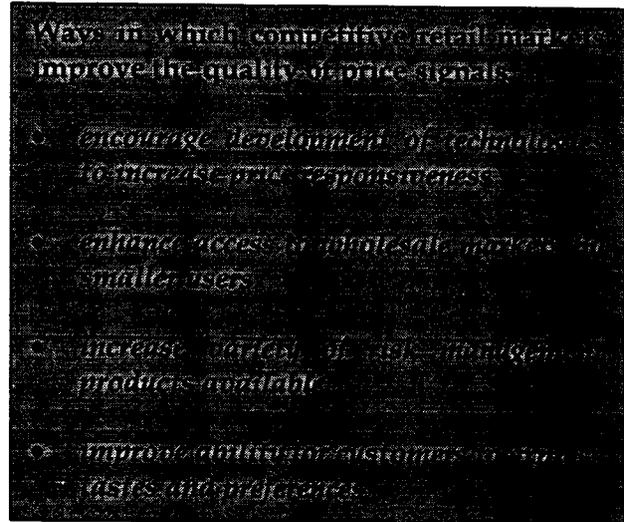
The remainder of this paper discusses the theoretical background for the implications of the inter-relationship between wholesale and retail markets, provides examples of this interaction from other industries, and discusses the steps that policy makers need to take to assure that competitive retail markets evolve in electricity.

### 3 Economic fundamentals of retail-wholesale relationships

The three major areas in which vibrant retail markets support more efficient wholesale markets are described below with the theoretical background supporting each.

#### 3.1 Dynamic efficiencies

By increasing the scope of competition in electricity markets, well-designed retail electricity markets enhance the dynamic efficiency benefits that constitute the core motivation for the restructuring of the electricity industry in the first place. Dynamic efficiencies are what electricity restructuring is all about. Short-term optimization was achieved without need for competition from the 1960s on, with the development of computing power and remote information and control systems. Given a set of loads, generation resources, and transmission facilities, central dispatch systems have for a long time been able to determine the least-cost mix on a real-time basis.



The failures that motivated restructuring were thus not at the level of short-run optimization, but at the level of *long-term capacity choices*, which ultimately result in long term *misallocation of capital*. Regulated or planned decision processes for choosing future generation and transmission resources turned out to contain substantial deficiencies, such as the possibility of overinvestment<sup>4</sup>, errors in fuel price forecasting, excessive intrusion of political considerations (e.g., promotion of nuclear power for defense-related reasons), and others.

The reversal of economies of scale in generation created pressure to allow competitive forces to determine the allocation of capital, without regulatory or tax guarantees for the recovery of investment. However, to allocate capital efficiently, reliable price signals are required. Markets which do not facilitate retail entry by outside suppliers deny customers the ability to express their tastes and preferences by switching suppliers. This can lead to further capital misallocation, underinvestment, and unresponsive pricing.

Competition at the level of retail electricity supply can enhance the dynamic efficiency benefits of deregulation by increasing competitive pressure in a number of ways:

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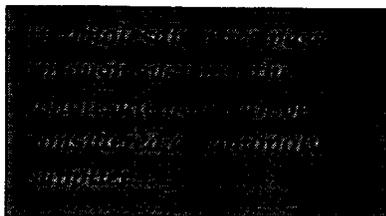
<sup>4</sup> This is the well-known Averch-Johnson (1962) effect. In a seminal paper, Averch and Johnson showed that standard regulatory mechanisms, such as one where the firm is able to make a regulated rate of return on capital, would give sub-optimal incentives to firms and cause an over-investment in capital.

- The *development of technologies and contractual mechanisms to increase the price responsiveness* (price elasticity) of electricity demand by small users, such as automatic equipment controls, discounts and rebates for load shifting or load management, and so forth. Such peak shaving mechanisms are among the most cost-effective ways of reducing the potential for price spikes, such as those that occurred in the Midwest during the summer of 1998.
- The supply of services related to electricity, such as remote metering, billing, multi-product bundling, marketing and contracting, etc., which can result in *enhanced access to wholesale markets by smaller users* and therefore increase opportunities for arbitrage and gains from trade. Arbitrage and gains from trade occur whenever mutually valuable trades can occur between prospective sellers and buyers. Without retail competition, many such trades cannot occur, because the opportunity for prospective buyers to bid for attractive purchasing deals is suppressed or at least distorted by the aggregation and administrative mechanisms placed in the stead of retail competition.<sup>5</sup>
- The *variety of electricity-related products with regard to risk management increases*, for instance by offering differing degrees of protection from price variability, which can enhance the benefits of trading for sellers and buyers. Where vibrant retail markets are lacking, customers are often forced to rely on physical alternatives, such as the purchase of a back-up generator, to guard against price spikes and outages. Financial alternatives, such as insurance and hedging mechanisms, help to avoid such relatively inefficient uses of capital. However, such products are unlikely to exist in markets which have been structured in a way which fails to provide economic returns to retail entrants.
- The *identification of other product dimensions valued by users improves*, such as reliance on environmentally-preferred generation technologies, which again can increase the gains from trade in electricity. Identifying valuable product dimensions can have a deep dynamic impact on wholesale markets by changing the profile of demand in wholesale markets and thus altering patterns of research and innovation. As an example, the deregulation of the airline industry has affected product innovation in the commercial jet industry by allowing better revelation of passengers' preferences about cabin arrangements.

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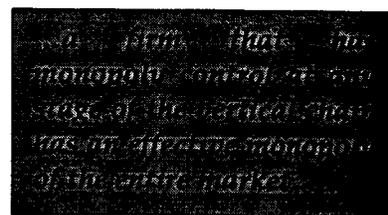
<sup>5</sup> Economic theory rightly regards gains from trade and arbitrage as "static" rather than "dynamic" benefits of markets. On the other hand, the "new" trade theory, and abundant empirical evidence, show the dramatic dynamic effects that trade (or the lack thereof) can have. When the scope of competition is extended by increasing opportunities to trade (for instance, by removing barriers to international trade), dramatic changes in the structure of economic activity occur, reallocating resources from activities of low to high relative value, and stimulating product innovation and investment to maintain competitive market positions.

### 3.2 Vertical market power



Economists refer to the interactions between retailers and wholesalers (also called downstream and upstream firms) as vertical interactions. When wholesale and retail functions are combined within a firm, the firm is said to be vertically integrated. The strength of vertical relationships in the electric power sector depends on the level of competition at both the retail and wholesale levels. In wholesale price pass through systems, and in jurisdictions where artificially low shopping credits have led to a reliance on default suppliers, retail markets essentially become a dependent function of wholesale markets. In other words, price formation at the retail level is largely determined by wholesale market dynamics; retail markets have little independent ability to influence wholesale markets. To determine the extent to which this level of virtual vertical integration in the electric power sector is harmful to final consumers, it is useful to review the economic literature regarding vertical relationships.<sup>6</sup>

A basic tenet of this paper is that effective retail competition will foster the competitive structure of the entire electricity market. The economic arguments supporting this statement have developed as follows. As early as 1950, economically inclined antitrust jurists such as Learned Hand recognized the role an upstream firm could play in downstream competition. In his landmark *Alcoa* opinion, most economists agree Hand correctly realized that Alcoa's 96% market share in bauxite ore gave it an effective monopoly in aluminum products, even though its market share in finished aluminum products was quite small. Part of the insight was that a firm that has monopoly control at any stage of the vertical chain has an effective monopoly of the entire market. Thus, the converse holds in this case, i.e., if Alcoa held 96% of the market for finished aluminum products, it would also have an effective monopoly even if bauxite was competitively supplied.

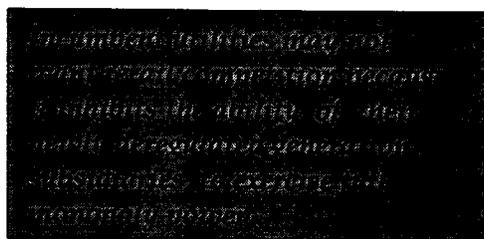


Economists and the courts next recognized that wholesaler-retailer contracts could be used to extend market power vertically, from the upstream firm to the downstream firm, even without direct ownership or vertical integration. These included contractual arrangements such as resale price maintenance (RPM), exclusive territories, and tying, all of which were deemed illegal by the courts. The courts saw these so-called vertical restraints as attempts by upstream firms to limit downstream competition and thereby extend their market power. Other economists then countered that there were real efficiency reasons for vertical control and vertical integration. Efficiency reasons for vertical integration could include the need to provide a costly but difficult to observe service with sales of the good. The current state of economic research on vertical control involves the details of how to weigh the potential costs of vertical

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<sup>6</sup> A vast body of academic literature has been written on the subject since the mid-1950's when the economic questions involved were first crystallized, often by antitrust jurists. A bibliography with sources for this research is attached.

control (due to downstream market power extension) vs. the potential benefits (due to increased efficiency). The only rule that has emerged from this research is that one must weigh the likely magnitude of costs vs. benefits.



It is almost axiomatic that a poorly performing wholesale market will imply poor final market performance, because the upstream market will pass-on high prices to downstream buyers.<sup>7</sup> Likewise, a poorly performing retail market will also imply poor wholesale market performance. Equivalently, under certain conditions, when there is a wholesale-to-retail structure, improving retail competition unambiguously improves social welfare (Tirole, 1987), (Rey and Tirole, 1986). In *The Theory of Industrial Organization*, MIT Professor Jean Tirole states, "Retail competition destroys profit." (p. 193, 1987) and hence manufacturers do not want retail competition because it inhibits the upstream firms' ability to "exercise full monopoly power".<sup>8</sup>

Under certain conditions, the wholesale-price-pass-through model is equivalent to vertical integration.<sup>9</sup> Under this structure, currently in place in California, customers pay the average wholesale market clearing price on the California Power Exchange over a certain time period. The intuition is that, under the wholesale price pass-through model, upstream firms are able to pass any price increases on to consumers directly. Therefore, if wholesale price changes are fully passed on, wholesalers effectively have vertical control. Conversely, with a vibrant retail market, an upstream price increase will be partially absorbed by the retailer in the form of lower margins. This case is often observed in the fact that retail gas stations, for example, do not find it optimal to pass one-to-one price increases from say, an excise tax, to consumers.

The social welfare gains to be had from moving to a competitive retail market can be seen in the following graph. The graph shows the effect of an increase in wholesale prices on retail prices and social welfare. In the graph, anti-competitive behavior in the wholesale power market results in an upward shift of the supply curve. The anti-competitive behavior of wholesalers will yield higher wholesale prices no matter what, but the impact on retail prices and social welfare will depend on how competitive the retail market is.

If there is a competitive retail market, retailers cannot charge anything above marginal cost. If a retailer in a competitive retail market tries to charge anything above marginal cost, consumers will buy from other retailers who are willing to charge marginal cost. At any given level of demand, therefore, price is equal to marginal cost. Graphically, the competitive price is at the intersection of the supply curve and the demand curve. The competitive prices before and after

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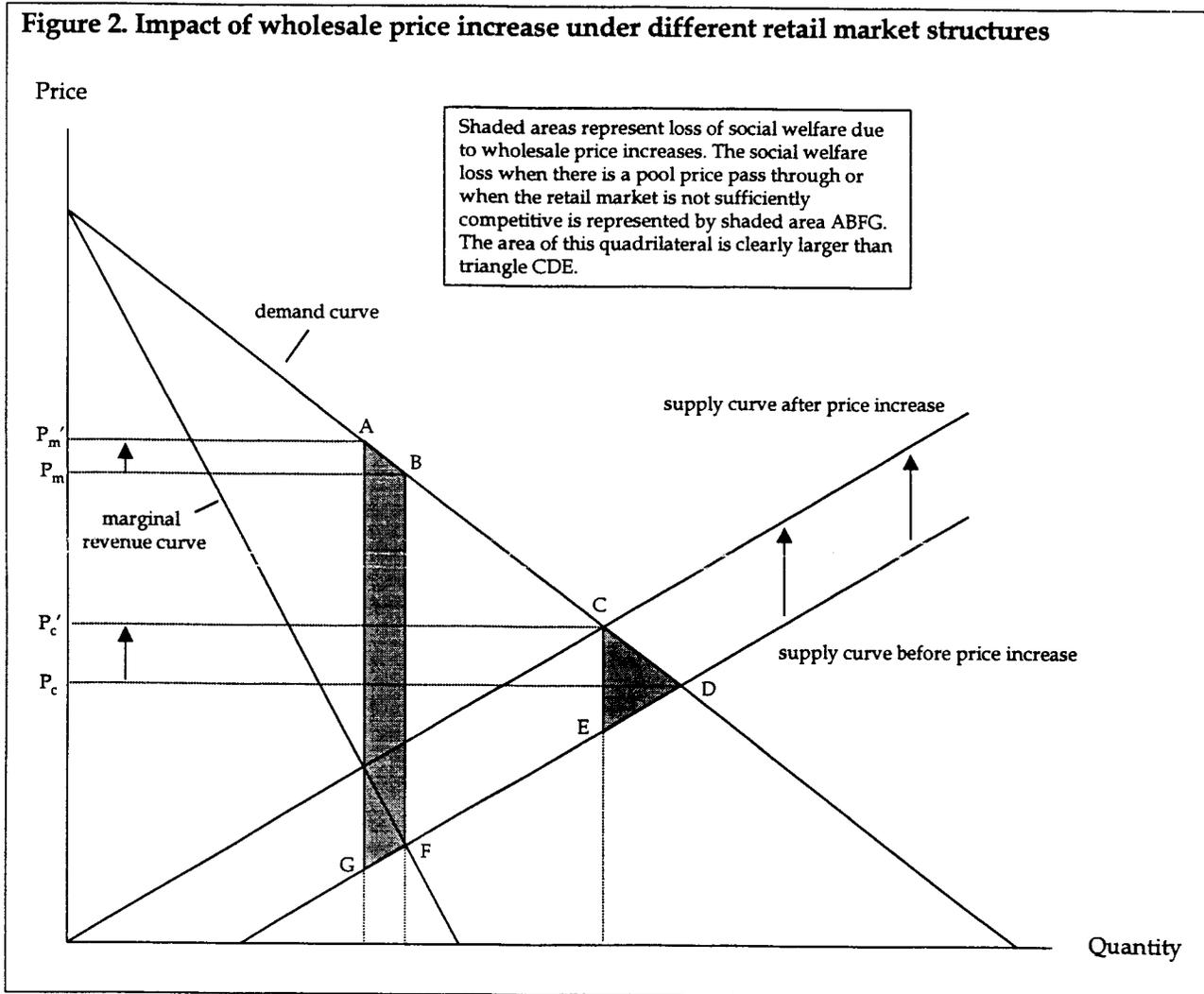
<sup>7</sup> Market performance generally refers to whether prices charged to final consumers are as low as the marginal cost of the product. There may be other issues with market performance such as whether consumers are receiving an optimal level of reliability, choice, product information, etc.

<sup>8</sup> The conditions are uncertainty over demand and supply cost—precisely the conditions in electricity markets.

<sup>9</sup> See Appendix A.

the upward shift of the supply curve are represented in the graph as  $P_c$  and  $P_c'$  respectively. If there is a lack of competition in the retail market, or if retailers simply pass wholesale prices on to customers, retail prices will be at the intersection of the demand curve and a line drawn vertically from the intersection of the marginal revenue curve and the supply curve, because this is the level at which profits are maximized. In the graph, prices under such circumstances are represented by  $P_m$  and  $P_m'$  respectively. Note that the price levels with a competitive retail market are lower than when the market is not competitive.

**Figure 2. Impact of wholesale price increase under different retail market structures**



The loss in social welfare due to the wholesale price increase is represented in the graph by the shaded regions. In the graph, the loss in social welfare when there is a competitive retail market is represented by the triangle CDE. The social welfare loss when there is not a competitive retail market, or if wholesale prices can be passed on to customers, is represented by the shaded region ABFG. Since the latter shaded region is clearly much larger than the former, it can be concluded that the loss of social welfare from wholesale price increases is greater when there is a lack of competition in the retail market. It can also be seen from the graph that, if wholesale prices are not passed on to consumers, wholesalers have much less incentive to engage in anti-

competitive behaviors. This is because the full gains from having market power can only be realized if production is set at the level where marginal revenue equals marginal cost.

### 3.3 Facilitation of new entrants

An extension of the argument regarding vertical relationships relates to the impact of competitive retail markets on the ability of new entrants to attain financing and thereby develop viable projects which can compete with incumbent firms. The tenets of project finance dictate that to the extent possible, a project should be financed using loans that have recourse solely to the assets of the project rather than to the balance sheet of the parent company or developer. Such loans can be secured in two ways: against the physical assets of the firm, whose value fluctuates given expectations about wholesale power prices, or against a series of contracts the project has to provide power to specific customers at a fixed price for a predetermined period of time.

Firms which are able to show lenders plans for a project which include contracts for the output, even if such contracts are for a relatively short term (two to five years) are able to obtain better financing packages than those firms seeking to finance on a purely "merchant" basis, that is, selling only into the wholesale market with no contract cover. However, in order to have a contract, a viable counter-party must exist. Competitive electricity retailers are natural counter-parties for new generation projects. Generation project developers need to show backers stable near-term revenue streams; retailers that have offered customers fixed price contracts need to be able to cost-effectively hedge their exposure by entering into a portfolio of firm and optional power supply contracts with generators. Without a competitive retail sector, there are fewer natural counterparties, ultimately raising the cost of financing new projects since such projects are viewed as more risky without some initial contract cover.

Currently, although we have seen active development of merchant plants in several regions without vibrant retail markets, developers in these markets are being asked to put up an increasing amount of equity to compensate for the added risk of having little or no contract cover. This eliminates many smaller players who lack the balance sheet to meet increased equity calls. In markets like New England, we are already starting to see smaller players sell out to larger firms with established market positions in other regions. At the same time, fuel suppliers are becoming increasingly reluctant to subordinate fuel payments, choking off another source of financing. This means small players face increasingly onerous financing costs.

Wholesale price pass-through and poorly specified shopping credit markets fail to create viable counter-parties for new generation projects. Because this increases the cost of new entry, it helps entrench existing suppliers, potentially increasing their market power. In the US, the most profound example of this can be found in the Midwest, where few states have developed retail access programs to date. Despite a capacity shortfall, the region has seen little new build announced. Florida presents a similar situation. Should incumbent utilities in these regions wish to maintain wholesale market dominance, we can expect them to argue for either wholesale price pass-through systems or to push down shopping credits to artificially low levels to eliminate any incentive for customers to switch.

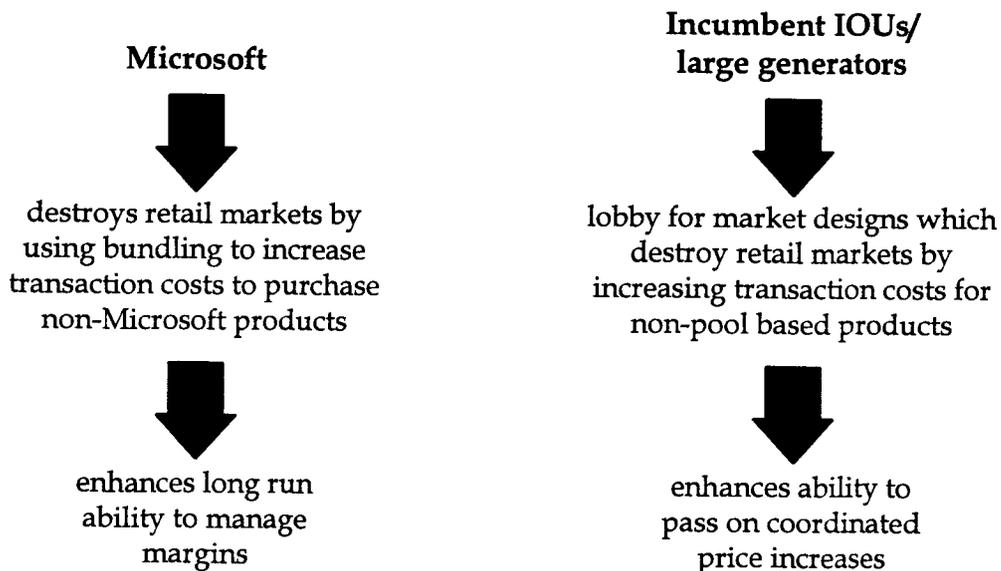
## 4 Retail market contribution to development of wholesale market competition: examples from other industries

The following section provides several examples of how customers suffer when retail markets fail to function properly and benefit when retail markets work effectively. Software markets have shown a decrease in choices available to consumers due to Microsoft's dominance at the wholesale level. In contrast, airline markets have provided increased choices in aircraft models as a result of powerful new players arising in the retail aircraft market. Finally, the explosion of fiber optic capacity is partly attributable to the opening of the retail long distance market; customers have benefited by continued real declines in the cost of long distance service. The general lesson: without a strong retail sector, wholesale players dictate terms that reinforce their dominance.

### 4.1 Elimination of retail markets in the software industry

The methods used by Microsoft to eliminate pressure from competitive retail markets is a classic case with which to demonstrate the effects downstream competition can have on upstream competition. Microsoft has achieved levels of market dominance that have not been seen in any industry since the days of the late 19<sup>th</sup> and early 20<sup>th</sup> century. Some of its alleged business practices have attracted antitrust scrutiny. Although the example is admittedly stylized, it nonetheless represents what could be considered a "worst-case" of what happens when retail markets are systematically circumvented.

Figure 3. Analogy between software and electricity markets



*both examples show dynamic efficiency losses, as customers lose their ability to express tastes and preferences, and rent transfers as companies exercise increased vertical control*

The economic relationships between hardware manufacturers and software manufacturers are complex and have been changing over time. In the early days of the PC industry, there were several small PC manufacturers; some produced their own operating system (OS) software (e.g.: Apple) and some did not. In those halcyon days, PCs came with little or no software preinstalled on the actual machine. Even the OS software would most likely be loaded onto the machine with a diskette that would have been purchased at a retail outlet or via a salesperson. One might therefore compare the early relationship between hardware and software to cars and gasoline. Your car won't run without gasoline. Your PC won't run without an OS.

The PC industry was hardly taken seriously by established computer giants like IBM and DEC, who specialized in mainframe and minicomputers—much larger machines. Everything changed with three events.<sup>10</sup> First, IBM decided to enter the PC market and license its OS software from Microsoft. Second, Apple invented the graphical user interface (GUI) making machines much more user friendly. Third, Lotus and WordPerfect developed spreadsheet and word-processing applications that would run on the new machines, massively expanding the uses of the PC from mere toys to work tools.

With the advent of basic applications like word-processing and spreadsheets, business people had real reasons to buy PCs. IBM recognized this need late in the game and needed to get in quickly, so it decided to license most of the equipment for their IBM PC, maintaining rights over only a small piece of the architecture. Big Blue (IBM) seemed to have won the day with its (licensed) operating system and the IBM PC dominating the market. What it did not anticipate was the ability of smaller and leaner computer hardware manufacturers to copy its architecture and use Intel chips and Microsoft's OS. Within a few years IBM had largely shut down its PC business and conceded defeat to smaller more efficient producers such as Dell and Compaq.

Subsequent events are what have caused problems for Microsoft with the Department of Justice anti-trust enforcement authorities. Microsoft started making a bigger and bigger push to get PC manufacturers to pre-install its OS onto all their machines. It also started trying to get manufacturers to enter into agreements to pre-install Microsoft's "other" products, such as MS Office, or more lately, MS Explorer, to the exclusion of other software manufacturers. Essentially, Microsoft's strategy has been to bypass the retail market to ensure its software products are seldom sold in a competitive forum. With such bundling tactics, Microsoft crushed the front-running OS and Apple's Macintosh line, and then went on to dominate spreadsheets and word processing, leapfrogging Lotus and Boreland (Quattro Pro). The latest casualty in the MS wake has been Netscape and its internet browser, which was overtaken by MS Internet Explorer.

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<sup>10</sup> In order of importance rather than chronological.

## 4.2 Vertical market power in aircraft manufacturing

Deregulation of the US airline industry has sparked dramatic changes in the upstream market for aircraft. Two decades ago, US airlines operated in a heavily regulated environment which contained few competitive pressures. Airfares were set by the US Department of Transportation, and adding flights or changing routes entailed a lengthy approval process. Traditionally, airlines purchased planes directly from the manufacturers; intermediate markets did not exist. By the 1980s, the number of wholesale aircraft manufacturers for long haul passenger jets had fallen to four; by the late 1990s, the number had fallen to two. However, the dramatic changes wrought on the industry at the retail level have meant that aircraft manufacturers today arguably have less market power than when deregulation began, even though the number of players has been cut in half.<sup>11</sup>

The reduction in wholesale aircraft manufacturers' price enforcement ability has arisen for two reasons. First, an intermediary market has become established consisting of aircraft leasing companies. These leasing companies play a dual role; they are at once both major consumers of aircraft as well as an alternative supplier of aircraft. The ability of leasing companies to provide planes on more flexible terms than the manufacturers has cut into the ability of aircraft manufacturers to make price increases stick. At the same time, the massive numbers of planes leasing companies purchase gives them more clout with the manufacturers in terms of volume discounts than some small airlines are able to achieve.

Leasing companies would have been unlikely to evolve out of the old regulated system of airline service, since flexibility and cost-control were not key determinants of profitability. Once consumers were able to shop around for airline tickets, airlines were forced to demand new purchasing options and better pricing from upstream suppliers. Likewise, deregulation allowed customers to reveal preferences for non-price attributes of service, such as smaller, quieter planes and direct regional flights. Airlines responded by demanding different types of planes, and different configurations in planes. This led to an entire new category of aircraft, the regional jet, and an entirely new niche of commercial aircraft providers.

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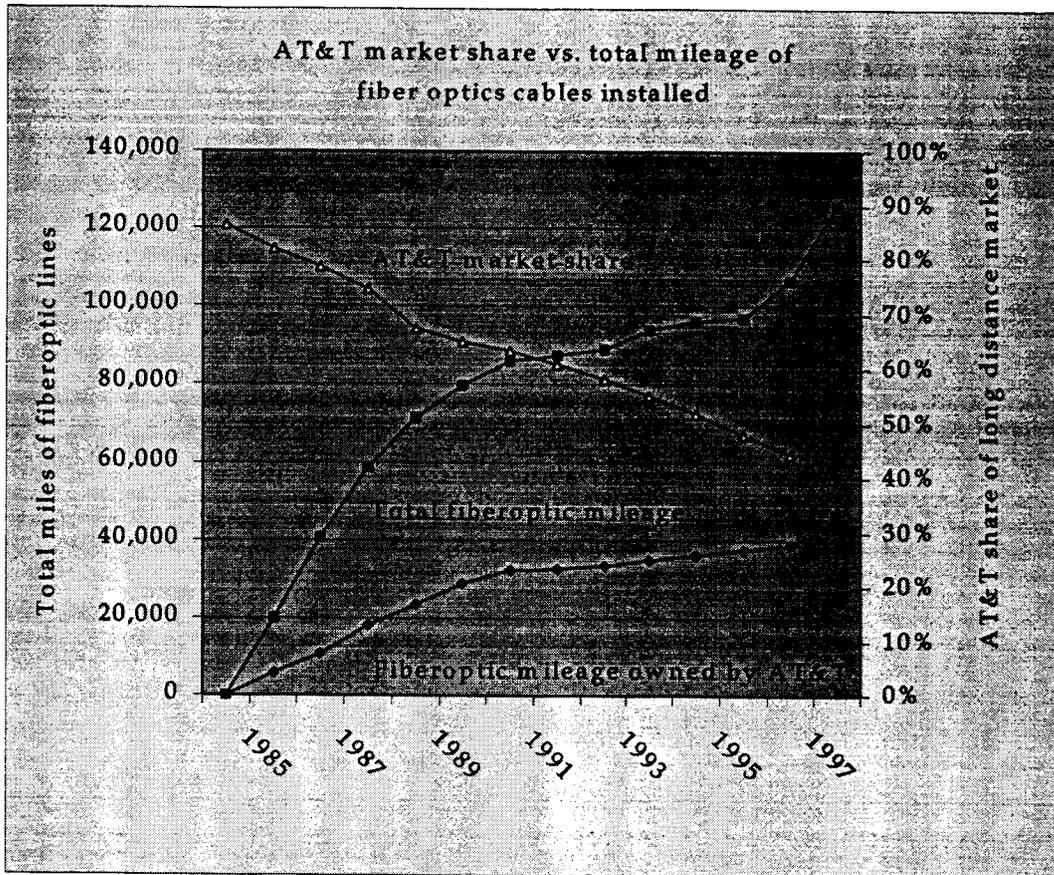
<sup>11</sup> It is important to recognize that some economists would argue that the social gains from decreasing costs of airline travel in the US have not been Pareto optimal, in the sense that some smaller markets have lost service and or faced higher prices. Choice in retail electricity markets will not have the same effect; costs for competitive retailers (as opposed to providers of "wires" type services) to serve rural markets are not significantly different from those for serving urban markets, given that retailing requires little physical infrastructure.

The combination of product design and payment flexibility, which arose as the result of increased retail competition, coupled with the absence of significant barriers to entry, improved the efficiency of the wholesale market and maintained the same effects occur in electricity as innovative retailers demand customized billing options, and access to new energy sources.

### 4.3 Facilitating new entrants in long distance telecommunications

There is a symbiotic relationship between availability of new infrastructure capacity and the role of retail markets. The more space competitive retailers are allowed in which to compete, the greater their demand for new infrastructure capacity; the more infrastructure capacity comes on line, the more critical the role of retailers becomes in finding users for that capacity. The most profound examples of this can be found in telecommunications markets, where a boom in the construction of new infrastructure has been sparked by the number of competitive retail long distance providers looking to secure long term capacity needs.

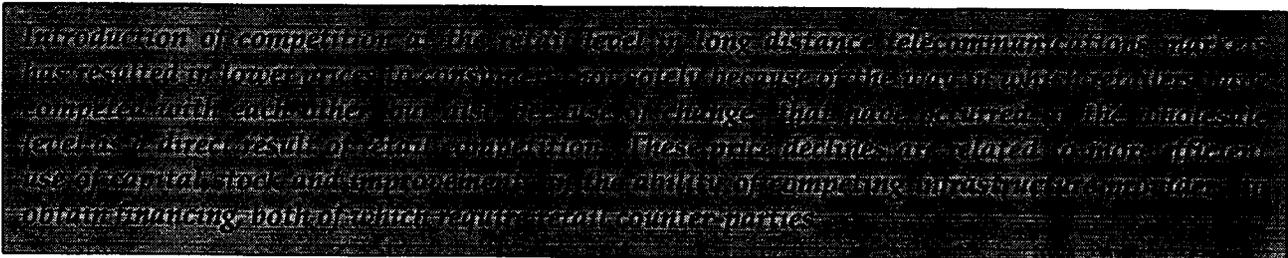
Figure 4. Miles of installed fiber optic lines increased after opening of retail long distance market



Before the breakup of AT&T, the bulk of long distance services in the US were both sold and provided by AT&T. The opening of long distance markets initially saw the development of two significant long distance competitors, MCI and Sprint. Both scrambled to obtain new customers while at the same time building a network of proprietary infrastructure to assure that they could supply quality service. As Figure 4 shows, the opening of long distance markets corresponded with an explosion in construction of fiber optics lines; today, AT&T controls less than one-third of fiber optic capacity, although it owns substantially more fiber optic capacity now than it did at the time of its breakup.

The next phase of evolution in competitive long distance markets saw the development of specialist firms without internalized vertical linkages. Thus, on the retail side MCI and Sprint were joined by long distance resellers<sup>12</sup> who purchased long distance capacity in bulk for resale but did not own that capacity, while on the wholesale side (the infrastructure construction, operation, and sales aspect of providing long distance) numerous players such as pipeline companies and railroads sprung up to provide fiber optics backbone operations. These latter sets of players were uninterested in direct sales to individual customers, but were interested in building and operating infrastructure. This level of specialization leads to better capital allocation decisions as companies are better able to assess project risks relative to core competencies.

Long distance markets are now reaching a further level of maturity with the development of wholesale markets for fiber optics capacity and markets for wholesale call minutes.<sup>13</sup> Development of these markets adds a level of price transparency, allowing customers to more accurately match their purchases with their needs; at the same time it enables companies with excess infrastructure capacity to attain some additional revenues. The implications of this process are that capacity will be used more efficiently, which will allow companies to delay construction of new capacity.

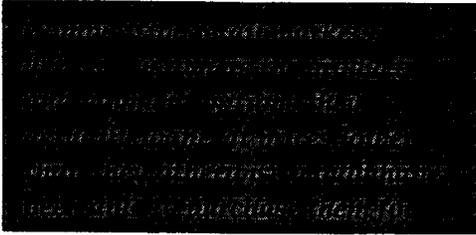


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<sup>12</sup> Numerous such firms exist; FCC records show over twenty, many of which own no infrastructure themselves.

<sup>13</sup> The exchange is run by a company called "Band-X", for Bandwidth Exchange. Within a year of the founding of Band-X, minutes on the New York to London route were trading at a 15% discount to published tariff rates. Rates on the exchange today for the route are one third lower than they were when the exchange opened in 1997.

## 5 Policy implications



The current restructuring of the US electricity industry presents unique opportunities for state regulators to “get it right” the first time when it comes to retail competition. “Getting it right” requires creating a retail market with multiple players who behave competitively, leading to lower total costs to customers and better products and services.

Because the electricity market is being reformed from a regulated monopolistic model to a competitive model, a vibrant retail market will not appear overnight. However, states may preclude vibrant retail markets from evolving by instituting barriers to competitive supplier entry. For example, the California style wholesale-price pass-through model artificially sets the price to compare at a wholesale rate rather than a retail rate. This can provide an almost insurmountable barrier to retail competition. Even when other rules support competitive supplier entry, the lack of support for retail price competition will limit the number of competitive suppliers and the number of choices for customers. To provide a transition to vibrant retail markets, the shopping credit/price to compare must include not only the wholesale cost of generation, but the costs to supply that energy to consumers that are over and above generation and wires charges. Those costs include billing, marketing, regulatory compliance, and customer service, as well as general and administrative costs to support the business.

We have seen repeated examples of the ways in which competition in retail markets - or the lack thereof - has affected consumer welfare. In telecommunications, the opening of long distance markets to new players spawned an infrastructure construction boom and lowered customer tariffs significantly. Airline companies can choose from a greater selection of planes, with a broader array of financing options, partially because deregulation at the retail level not only forced them to compete, but their suppliers as well. This has increased choices for consumers, while contributing to a real decrease in the cost of air travel. Microsoft’s attempts to by-pass retail markets adds validity to the idea that competitive retail markets limit upstream market power.

Creating competitive wholesale generation markets is not enough. Unless there is competition at the retail level, small customers are unlikely to enjoy the full extent of gains from competitive pricing. In time, these adverse effects will trickle upwards, limiting the efficiency of still nascent wholesale markets and affecting large commercial and industrial customers as well. While creating a competitive retail market takes regulatory time and effort - particularly when incumbent utilities are lobbying against it - the long term rewards are great: prices to final consumers that are lower than they otherwise would have been, and provision of products and payment options that customers actually want.

## 6 Bibliography

### Microeconomics - General

Nicholson, Walter, *Microeconomic Theory: Basic Principles and Extensions, Third Ed.*, New York, NY: The Dryden Press, 1984.

*An excellent and readable intermediate micro text. See Chapters 10 and 12 for graphs of market supply and demand.*

Tirole, Jean, *The Theory of Industrial Organization*, Cambridge, MA: MIT Press, 1988.

*The definitive graduate level text on Industrial Organization.*

### Regulation and Antitrust - General

*Alcoa Case, United States v. Aluminum Co. of America. (1964), and United States v. Aluminum Co. of America, (2<sup>nd</sup> Circuit 1945).* Any good Antitrust casebook will have this case.

Laffont, Jean-Jacques, Jean Tirole, *A Theory of Incentives in Procurement and Regulation*, Cambridge, MA: MIT Press, 1998.

*The modern theory of games and principle-agent incentives incorporated into regulatory theory. A graduate-level text.*

Viscusi, W. Kip, John M. Vernon, Joseph E. Harrington, Jr., *Economics of Regulation and Antitrust*, Cambridge, MA: MIT Press, 1998.

*A very readable text covering all the major issues and evidence in the subfield.*

### Vertical Control

Averch, H., and L Johnson, "Behavior of the Firm Under Regulatory Constraint," *American Economic Review*, December 1962.

*The seminal article on how regulation perverts incentives. Some knowledge of calculus enhances an understanding of the work.*

Blair, R., and D. Kasserman, *Law and Economics of Vertical Integration and Control*, New York: Academic Press, 1983.

*Comprehensive review of the issues of vertical structures at a fairly accessible level; for lawyers with some economics.*

Rey, Patrick, and Joseph Stiglitz, "The Role of Exclusive Territories," *Rand Journal of Economics*, 1995.

*An excellent, though challenging, article showing how manufacturers' exclusive territories can raise prices and reduce social welfare.*

Rey, Patrick, and Jean Tirole, "The Logic of Vertical Restraints", *American Economic Review*, 76, 1986, 921-939.

*A trove of results including exactly how retail competition can be bad for upstream suppliers, but somewhat challenging.*

### Aircraft leasing

*Economist Intelligence Unit*. "Development strategies for the world's airlines." London: September 1988.

Kernstock, Nicholas. *Aviation Week and Space Technology*. "Concerns about leverage cool market for airline takeovers." Washington: McGraw Hill, November 20, 1989. p. 71.

Lane, Polly. *Seattle Times*. "Aircraft leasing firm aims to fly higher." June 3, 1999.

### Fiberoptic data

Conversations with Jonathon Kraushaar about 1998 figures for the Fiber Deployment Update.

Kraushaar, Jonathon M., "Fiber Deployment Update of Year 1997". Washington, DC: Industry Analysis Division, Common Carrier Bureau, Federal Communications Commission, July 1998.

Zolnierek, James, Katie Rangos and James Eisner, "Long distance market shares, first Quarter 1998". Washington, DC: Industry Analysis Division, Common Carrier Bureau, Federal Communications Commission, June 1998.

### Telecom data

"Commoditizing telecoms - porkbellies calling?" *Economist*, 30 August 1997.

Conversations with Richard Elliot of Band-X about pricing and indexing information with regards to the telecom commodity market.

Research on website: [www.band-x.com](http://www.band-x.com)