

**Why we need electricity retailers:
A reply to Joskow on wholesale spot price pass-through**

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Abstract

Paul Joskow and others propose that, with the opening of retail electricity markets, distribution utilities should be required to enable residential customers to buy at (averaged) wholesale spot market prices. They argue that retail electricity competitors should concentrate on value-added services rather than price competition. However, they have not acknowledged the importance of retail price competition, neglected the role of contracts markets, and underestimated the costs and disadvantages of this proposed obligation. Recent experience in San Diego illustrates some of the problems. An alternative policy of maximum price caps has been adopted in the UK, and is facilitating a transition to a competitive deregulated residential retail market.

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Summary

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- I. Paul Joskow has recently argued that electricity distribution companies should be required to enable residential consumers to purchase electricity at the average price in the wholesale spot market. He argues that this would protect them from exploitation, avoid wasteful expenditures on marketing, and usefully channel the efforts of retailers towards value-added services rather than price competition. The present paper appraises these arguments, compares them against UK experience, and suggests an alternative transition policy to retail competition.
- II. William Hogan and Larry Ruff have advanced similar arguments. The policy has recently been implemented in San Diego.
- III. Joskow argues that retailers prosper by adding value to the wholesale market. His illustrations are useful but he underestimates the role of retail competition in price formation, in establishing the most efficient suppliers, in discovering the most preferred products and terms of supply, and in strengthening wholesale competition.
- IV. Joskow estimates that retailing costs are small so that reducing them by competition would be of little benefit to customers; that in practice these costs and hence prices are likely to increase because of higher marketing costs; and that rate rebalancing will mean increases in prices to smaller users. These calculations are worthwhile. However, in practice retail competition can stimulate offsetting reductions in retail and generation costs, provide better information about the relation of costs to price, and provide greater pressure for improved cost allocation, without necessarily increasing prices.
- V. Basic Electricity Service (BES) is said to involve “the passive pass-through of wholesale spot market prices”. In practice this would be less straightforward and more costly than suggested. As markets become more sophisticated the spot market price may not be suitable for this purpose. BES does not avoid the costs and complexities of load profiling. Additional marketing costs would be needed to inform customers of its availability and claimed advantages. Requiring distribution businesses to offer BES would be at variance with the policy of separating distribution and retail supply, and would be more costly than if supplied by retailers in response to customer demand. In the UK there has been no residential demand for this form of supply; in Norway suppliers also offer hedges that the BES policy would prohibit; in a US company only 0.2% of residential customers chose this policy.
- VI. Three policies are analysed. (1) Obliging distribution companies to provide BES in lieu of allowing retail competition at this time does not avoid many of the costs of retail competition. It does not provide the benefits of variety and innovation, nor the pressure for efficiency in retail and wholesale generation costs. It does not facilitate reduction in regulation. (2) The advantages of BES to accompany retail competition are less than claimed. The resulting price is not fully transparent. The availability of BES is unlikely to increase pressure

on retailers to provide value-added services or to protect customers against exploitation. If customers want BES the competitive market would provide it more efficiently. (3) Automatically providing BES and withdrawing the traditional regulated tariff would limit the scope for competition in retail services such as metering and billing. It would impose uncertainty and cost on potentially sensitive customers. It would stimulate pressure for price controls on wholesale prices.

- VII. Joskow argues against the use of market shares to assess the success of electricity restructuring and competition, and instead proposes examining the nature of value-added services provided. However, while many market features are relevant, it seems perverse not to give considerable weight to whether consumers actually choose the alternatives on offer. The share of competitive retail suppliers also indicates the extent to which the market is operating on terms chosen by the market participants themselves, rather than imposed by regulation. Joskow proposes that the removal of BES should be linked to the removal of the price controls. It is not clear why this would be necessary or appropriate, and it would increase the pressure to maintain such controls.
- VIII. California provided for an automatic transition to wholesale spot pricing when stranded costs were paid off. San Diego reached that stage in 1999. Unexpectedly high spot market prices led to considerable complaints. The combination of the policy and the high wholesale prices accentuated public concern and the policy may have accentuated the wholesale price fluctuations. The levels of frozen price caps and the stranded asset policy have also discouraged retail competition for residential customers.
- IX. The privatised incumbent suppliers in the UK were initially allowed to pass through generation costs subject to an economic purchasing condition. This proved difficult to enforce, and higher costs and risks were imposed on customers. The opening of retail competition allowed the supply price controls to be removed for large customers and replaced by fixed maximum price caps for small customers. The levels of these caps allowed scope for competition yet protected customers, who could now change supplier. There was a danger that in resetting the levels of these caps they would be tightened too much: the aim should be to let the market, not the regulated price caps, deliver the benefits of increased efficiency and competition. Over 27% of residential customers have so far switched supplier, and the regulator envisages removing the residential price caps in two years' time.
- X. There is much that is valuable in Professor Joskow's paper, but it underestimates both the importance of retail competition and the costs and disadvantages of BES. This has been shown in San Diego. If customers want wholesale spot pass-through, the competitive market will provide it more efficiently than distribution companies acting under a regulatory obligation. There are better ways to protect customers and facilitate the transition to a competitive unregulated retail market.

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I Introduction

It has been suggested that the introduction of retail competition in electricity supply should be either accompanied or replaced by a requirement on the incumbent utility to offer supply to residential customers at the wholesale spot market price (plus the costs of transmission and distribution). This proposal seems to have originated with William Hogan, Paul Joskow and Larry Ruff, who were advising electricity utilities in Southern California. They respectively call it Efficient Direct Access (EDA), Basic Electricity Service (BES) and Spot Price Pass-through (SPP). All three proponents have since reaffirmed their support for the policy, Joskow¹ having done so most recently and most thoroughly. I have also heard the policy advocated in several countries around the world. Last year, it was implemented in San Diego, California.

Hogan, Joskow and Ruff are among the leading US utility economists. The half-dozen other economists whose comments Joskow acknowledges include some distinguished and experienced scholars who presumably either broadly agree with the author or have failed to present persuasive counter-arguments. Others have endorsed the policy, and I am aware of only one published counter-argument. The reader might be forgiven for thinking that Joskow's analysis and argument should be taken as the representative view of utility economists on retail supply competition. But is this the case?

Joskow's paper addresses a very topical question and contains much that one can agree with. There is a good exposition of the actual and potential role of retailers, in general and with respect to electricity, at least as regards the non-price aspects of competition. There are some useful calculations and analyses of average retail supply costs for different classes of customer across the US as a whole. (It is to be hoped that state regulators have provided or at least sought more detailed and authoritative analyses of companies within their jurisdictions, but I fear this may not always be the

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¹ Paul L Joskow, "Why do we need electricity retailers? Or, can you get it cheaper wholesale?" Center for Energy and Environmental Policy Research, Massachusetts Institute of Technology, revised discussion draft, 13 January 2000.

case.) The analyses and comparisons of “shopping credits” and percentages of customers that have switched supply in different companies and US states are informative, provocative and worthy of debate.

Nevertheless, in my view there are many serious and surprising omissions and weaknesses in the analysis, and in the analyses of the other proponents, that render much of their underlying argument unpersuasive. Briefly, the analyses do not fully acknowledge the role and importance of retail price competition; they construe the wholesale market too narrowly, ignoring the contracts market; and they underestimate the costs and disadvantages of the proposed policy and overestimate the benefits. The problems in San Diego in July and August of this year illustrate sharply some of these disadvantages.

The next section of the present paper summarises the relevant literature to date. The subsequent five sections set out a detailed critique of Joskow’s paper (henceforth often referred to as “the paper”). They examine the logic of the argument and where relevant compare it against experience in the UK, covering:

- the analysis of retailing, in general and with respect to electricity;
- the effect of retail competition on electricity prices;
- the implications of obliging distribution companies to provide Basic Electricity Service;
- the assessment of policy options; and
- the transition to full retail competition in electricity supply.

The penultimate section describes and comments on experience in California, particularly San Diego. The final section describes an alternative transition policy, as adopted in the UK, which I believe would (with one modification) better protect customers, promote competition and avoid the difficulties encountered in San Diego.

It is convenient to focus on Joskow’s paper as the most thorough and recent of the arguments for wholesale spot pass-through to residential customers. But for the most part my critique applies equally to the arguments presented by the other proponents. Indeed, they and not he recommended the “automatic” application of the policy in San Diego.

II The Literature

The earliest written statement of the proposal of which I am aware is in Hogan’s Comments to the California PUC and to the House Energy and Power Subcommittee in Washington in 1994². The two steps necessary to make it operational were said to be the implementation of a competitive wholesale market with a readily available spot

² William W Hogan, “Comments” on California Public Utilities Commission, Order Instituting Rulemaking and Order Instituting Investigation: on the Commission’s Proposed Policies Governing Restructuring California’s Electric Service Industry and Reforming Regulation R. 94-04-031 and I. 94-04-032, Los Angeles, June 15 1994. (These Orders were filed April 20 1994 and referred to as the California “Blue Book” proposals.) William W Hogan, “Comments on Electric Industry Restructuring” before Energy and Power Subcommittee, Committee on Energy and Commerce, US House of Representatives, Washington DC, July 14 1994. These latter comments have detailed references. The same ideas were later elaborated in William W Hogan, “Efficient Direct Access: Comments on the California Blue Book Proposal”, *The Electricity Journal*, Vol. 7, No. 7, September 1994, pp. 30-41. The theme appears in subsequent conference presentations by Hogan in (e.g.) San Diego in September 1994 and in Greenbriar WV in July 1995.

price, and a change in rate design to allow the energy component of the bill to be based on the arm's length spot price. According to Hogan, "The essence of this rate design idea can be found in the California Division of Ratepayer Advocate (DRA) "Blue Book" comments on top-down pricing. This approach to Efficient Direct Access has the key feature of Larry Ruff's oft-noted and simple summary of the long-run role of the regulated utility in providing the commodity electricity as 'delivering spot-priced electricity'"³.

At this initial stage, Hogan's proposal seems to have been aimed at supporting and facilitating the California PUC decision to restructure and reform the electricity industry.⁴ The rationale may have changed somewhat as experience was gained in the UK and as restructuring gradually took place across the US. The recent argument by Ruff⁵ reflects a concern about the costs of extending retail competition to residential customers. He argues that although retail competition is potentially beneficial, the cost of hourly metering is at present generally prohibitive for small customers. To some extent this can be overcome by profiling. But the high costs of settlement systems (he quotes \$1 billion in England and Wales) are not worth incurring when most of the benefits (primarily protection against monopoly mark-ups by distribution companies) can be obtained more cheaply. That is, by requiring the monopoly Local Distribution Company to offer to supply at the wholesale spot price, plus distribution and other charges.

There is a brief written statement and advocacy of the proposal in three paragraphs of a wide-ranging paper by Paul Joskow and Roger Noll⁶ that deals mainly with the Bell doctrine and restructuring in telecommunications. These three paragraphs discuss the question "should the local distribution company be required to offer a "plain vanilla" cost-based default service for consumers who decide not to go with a competing retailer?" The paper says that this is an issue that has been raised in the context of introducing electricity competition, and is likely to become highly controversial.⁷ (That prediction was certainly fulfilled in California this summer.) The cited justifications for the "plain vanilla" approach are the belief that retailers may not add much value compared to the local monopoly supplying at wholesale prices, and the concern that smaller consumers will be exploited over time because of information and transactions costs.

³ Hogan, "Comments on Electricity Restructuring" *op. cit.* fn. 15, p. 9. Ruff comments "I was one of the early advocates of the spot-price-passthrough (SPP) idea. In fact, I proposed it to RECs [Regional Electricity Companies] and others during the England and Wales restructuring. But I never wrote it up. Bill Hogan reinvented the idea more or less independently during the California discussions, and then Joskow did the same. The academics did a better job of writing it up." Personal communication, 13 August 2000.

⁴ "EDA was conceived as an easy way to give retail access, one that would allow anyone to make other contract arrangements without much fuss." Hogan, personal communication 15 June 2000.

⁵ Larry E Ruff, "Competitive Electricity Markets: Why They Are Working and How To Improve Them", NERA, 12 May 1999; substantially reprinted as "Competitive Electricity Markets: One Size Should Fit All", *The Electricity Journal*, Vol. 12, No. 9, November 1999, pp. 20-35.

⁶ Paul L Joskow and Roger G Noll, "The Bell Doctrine: Applications in Telecommunications, Electricity, and Other Network Industries", *Stanford Law Review*, Vol. 51, May 1999, pp. 1249-1315. The three paragraphs in question are on pages 1312-13, at the end of a section on the electric power industry (pp. 1297-1313) that is said (fn. 89) to rely heavily on Paul L Joskow, "Electricity Sectors in Transition", *Energy Journal*, Vol. 19, No.2, April 1998, at pp. 25-52. The latter paper is an excellent review of recent developments, but does not refer to the proposal under discussion here.

⁷ *Ibid.* pp. 1310, 1312.

Joskow may have felt a degree of frustration with the discussions about retail competition in the US, and the activities (and inactivities) of the electricity retailers. His discussion paper is provocatively entitled “Why do we need electricity retailers?” It reaffirms and extends (to 57 pages) the argument in the Hogan and Ruff comments and in the Joskow-Noll paper. Since Joskow’s paper is the most thorough and recent exposition of the argument, the remainder of this present paper refers mainly to it, except where necessary to understand the context of the argument or where the proposals differ. For the most part the critique that follows applies equally to the arguments of the other authors.

Joskow argues that electricity retailers should concentrate on providing value added services and not on price competition. He suggests that electricity distribution companies could easily provide a Basic Electricity Service (BES) that would make it possible for consumers to buy electricity in competitive wholesale markets at the spot price. This would be important for residential and small commercial customers, for whom it would provide an excellent competitive benchmark and would help to protect them from exploitation by competitive suppliers. It would mitigate wasteful expenditures on marketing that would increase prices, and would channel the efforts of competitive retailers in more valuable directions. He argues further that, although successful retail competition could improve the performance of wholesale markets, the efforts of regulators to use “shopping credits” to subsidise new retailers, and their focus on percentage of customers switching to such retailers, are misguided. Such policies are likely to make residential consumers worse off than if distributors had been required to make available BES.

I have seen other arguments in support of the spot-pricing proposition⁸, but am aware of only one published counter-argument to this proposal, in the recent paper by Goulding et al.⁹ This argues that failure to provide for vibrant retail markets (defined as those with multiple strong players including at least one not associated with a regional incumbent) will fail to provide the products that customers really want, raise the barriers to entry by new retailers, and thereby reduce innovation. It will also distort investment decisions, accentuate monopoly power and make entry more difficult in wholesale generation markets.

III The Nature of Retail Competition

Retail competition in general

After an extensive introduction and summary, the body of Joskow’s paper opens with the proposition that “retailers exist and prosper because they add value...to what consumers would receive if they purchased directly in the wholesale market” (p. 9).¹⁰ The primary ways cited in which they do this are by

⁸ E.g. Theresa Flaim, “The Big Retail “Bust”: What Will It Take to Get True Competition?” The Electricity Journal, Vol. 13, No. 2, March 2000, pp. 41-54.

⁹ A J Goulding, Carlos Ruffin and Gregory Swinand, “The Role of Vibrant Retail Electricity Markets in Assuring that Wholesale Power Markets Operate Effectively”, The Electricity Journal, Vol. 12, No. 10, December 1999, pp. 61-73.

¹⁰ The words qualifying “value” are “real or imagined and I will not distinguish here between the two”. The same assumption is made herein.

- selling at convenient locations and times
- providing complementary products and extensive inventories
- providing point-of-sale and post-sale services
- passing on benefits of wholesale buying power in lower prices
- reducing retailing costs, and
- developing a reputation for accurate information about quality and service.

For the most part I have no quarrel with this analysis. The suggested functions of retailers are sensible and imaginative and founded in practical examples, as far as they go. My two concerns are that the exposition tends to underestimate the role of retailers and the retail market relative to the role of producers and the wholesale market, and in particular that it tends to underestimate the role of retailers with respect to price as opposed to quality.

On the first point, it is almost implied that “in the beginning was the wholesale market”, a market much like a village or city produce market, with many producers exhibiting familiar products. Final customers are amongst the purchasers, until lured away by the superior convenience and services offered by retailers, but ever ready to return if that superiority proves illusory.

Whether or not there is historic accuracy in such a description, I suspect it does not fully capture the relationship between wholesale and retail markets today. The paper clearly envisages a catholic definition of wholesale market, to encompass “sales by manufacturers”. But it is debatable whether most customers would be aware of and able to purchase most products and product variations if it were not for the existence of retailers. Are they aware of which company manufactures or otherwise produces most of the products they purchase? Would they know where to find such manufacturers, and would the latter be pleased, inconvenienced or simply nonplussed if a retail customer actually turned up at their door.

For most residential customers and most products, the wholesale market is not the relevant alternative. It is the retail market that counts. Of course, some manufacturers will offer to sell direct, in effect acting also as retailers. And some retailers will claim to offer access to the wholesale market. But in general, recourse to the wholesale market is not the relevant alternative for a dissatisfied retail customer. The relevant alternative is to patronise another retailer, or to buy other goods and services instead.

A perspective that sees the wholesale market as central, with retailing relevant only to the extent that it can offer better quality service, will therefore tend to underestimate the role of retail competition, both in creating relevant products and in establishing their prices in the market. A more complete view would note that retailers seek out and often commission products at prices and qualities that they think will appeal to customers. Competition between retailers also tends to ensure that, for a given quality, products are purchased from the cheapest producers by the most efficient retailers, and sold on to customers at margins that are not excessive in relation to efficient retailers’ costs. Of course, not all retailers are equally satisfactory. And which manufacturers are cheapest is constantly liable to change over time, given uncertain and changing market conditions, changing product qualities and the entrance and exit of different producers. Retailers therefore add value by developing

a reputation, not only for providing accurate information and delivering on promises about quality, but also for consistently offering the best prices.

This suggests that the paper's description of what retailers do in other industries should be modified in two respects. First, the opening proposition might read, "in other industries, retailers exist and prosper because they add value...to what consumers would otherwise receive", without specific comparison with the wholesale market. Second, the list of ways in which retailers add value with respect to quality might be supplemented by adding something like the following ways of adding value with respect to price:

- by discovering or commissioning and purchasing products from producers that can be offered to customers on terms that customers are likely to find attractive;
- by helping customers to appreciate the existence of products and product variations, and terms on which these are available, that are likely to be attractive to them;
- in particular, by stimulating the alertness of customers to the availability of better prices than they are presently paying, or likely to pay in future;
- by developing a reputation for providing good value for money over time;
- and thereby creating or contributing to the existence of or strengthening a market process that tends to offer to customers the best prices that the most efficient producers and retailers can offer at any time.¹¹

Distinctive attributes of electricity

Joskow points out (pp. 14-7) that "electricity has a number of peculiar attributes" that are relevant for understanding where retailing is likely to add value. These are, briefly, the homogeneity and non-storability of electricity, the primarily financial rather than physical nature of retailing, and the limitations of present electricity meters.

I have no quarrel with these points¹². My only reservation is the implied criticism of load profiling, and hence of retail competition, at the end of the section, where the following remark is made.

"Promoting customer choice for all retail customers without requiring more sophisticated metering has made it necessary to rely on costly and highly imperfect load profiling systems... This is like a supermarket charging for a cart of groceries based on the average cost per pound of groceries in a sample of shopping costs that passed through the cashier's desk rather than based on the individual items in the cart". (p.17)

Four brief comments on this.

¹¹ Cf. I.M. Kirzner, Competition and Entrepreneurship, Chicago and London: University of Chicago Press, 1973.

¹² Though the adjective "peculiar" may seem more pejorative than, say, "distinctive". Conceding too much to "peculiar" attributes of an industry can unnecessarily open the door to special pleading. After half a century of nationalisation and/or regulation because electricity is said to be different, there are advantages in stressing the similarities between electricity and other products, rather than the differences.

(1) I'm not sure that load profiling is particularly costly. I believe it isn't in Norway. The costs of opening the residential market in the UK were indeed high, but they were primarily associated with securing uniform IT systems to transfer customer data rather than with load profiling.

(2) The costs of profiling are very significantly less than the costs of installing and reading the more sophisticated meters and the associated costs of data processing and billing. The paper rightly notes later that "at the present time, this type of sophisticated metering and control equipment is economical only for larger customers". (p. 19) In the absence of load profiling, retail competition for residential customers would have been precluded. In my view, as will be apparent later, the advantages of some retail competition, albeit for the average profile, greatly outweigh the prospect of none.

(3) The proposed Basic Economic Service does not avoid the need for load profiling, as explained below.

(4) The analogy with the supermarket cart is inspired but unpersuasive. For various reasons, including similarity of costs between time-periods, inelasticity of demand and impossibility of storage, the sale of electricity on the basis of monthly total consumption is not vulnerable to exploitation in the way that sale of groceries by the pound would be. As far as I know no grocery has ever adopted such a system but every electricity system everywhere seems to have done so for residential customers, since electricity was first invented.

How electricity retailers provide value added

Joskow next asks (p.17) where retail value-added opportunities are likely to be in electricity, given its peculiar attributes. It asserts that opportunities for price competition are likely to be small, with little social value, and that retail competition may be socially costly because of increases in marketing and other associated costs. The major opportunities for retail value-added services are likely to be in reducing the costs of retailing, improving wholesale power procurement, installing more sophisticated metering, hedging market price risk and weather uncertainties, installing facilities to improve power quality, providing "green power" options, providing total energy management services, and improving the operation of the wholesale market by the creation of a robust retail market.

As with the paper's discussion of retailing generally, the discussion of potential value-added opportunities in electricity retailing is for the most part sensible and imaginative, though I shall suggest some additional benefits provided by retail competition, to add to the list¹³. My main concern is with the summary dismissal of price competition.

One might have expected that, after discussing the nature of retail competition generally and the distinctive attributes of electricity, the paper would discuss the form that retail competition would likely take in the electricity sector. This is not done. And the reasons given for dismissing price competition are unsatisfactory. They do

¹³ See also the discussion in Goulding et al., op. cit.

not follow from the distinctive attributes of electricity identified in the previous section. Rather, the assertion that the opportunities for price competition are likely to be small, especially for residential and small commercial consumers, seems to depend on the assumption that present regulatory price or profit controls remain, and at present levels¹⁴. The assertion that retail competition would have little social value and would be socially costly depends in part on the same implicit assumption. It also depends on an asserted comparison with another regulatory obligation, the hypothetical BES policy that has been mentioned in Joskow's Introduction but not yet discussed in the text of his paper.

The role of retail price competition in the electricity industry has thus been dismissed, partly because the significance of retail price competition is under-appreciated in the earlier discussion of competition generally, and partly because of the invocation of regulatory constraints, existing or hypothetical, that apparently perform the beneficial functions of price competition without the costs. This is ironic because the discussion arises precisely from consideration of government policy aimed at removing such regulatory constraints.

The nature of retail price competition in electricity

Putting aside regulatory intervention for the moment, what form would the introduction of retail competition be likely to take in electricity? It would be natural for such competition initially to focus mainly on price, for at least two reasons.

First, for the reasons given in Joskow's paper, electricity is broadly homogeneous and the scope for adjusting the quality of the electricity itself is severely limited, at least in the short term. Second, a key function of retail competition is to set retail prices, that is to moderate the process of price formation in the market. That process has been suppressed or distorted by government policies in all countries over the last fifty years or more. The obvious consequence of removing such government or regulatory constraints is to set the market's price formation process into action.

This is precisely what has been observed in countries round the world when retail competition has been allowed and price restraints removed, particularly for larger and medium-sized customers. The experience of Britain may be reasonably typical. For the first time, electricity retailers (initially the former utility suppliers, plus entrants including generators and others) asked their customers what they wanted. Uniform fixed price, time of day or time of year prices, interruptible prices, Pool prices? Retailers could buy in the Pool, but this was only one aspect of the wholesale market. They asked the generators what they could offer in the way of hedges (typically contracts for differences around Pool prices), including contracts for base load, mid-merit and peaking electricity or back-to-back arrangements with customer load. They explored different durations, for a month, a year or a longer term. They translated these various costs into offers to customers, trying to match the best offers by other retailers in the market, where they judged it economic to do so. They assessed customer response, and tried to put together portfolios of purchase contracts to match

¹⁴ I say "seems" because the reader is referred to an argument in "the next section", that I think refers to the calculations about present retail margins in the next two sections, that in turn presumably depends on the present regulated level of prices.

their projected sales to customers, with some judgements about exposure to risk and in the light of their underlying strategies about business policy and market share.

The customers, meanwhile, were equally active. They needed to know what was on offer and to evaluate what would best suit them. They needed to estimate their likely electricity consumption, often aggregated over many plants, to work out load factors and seasonal variations, and their scope for load management at times of high prices. They needed to put competing offers on a common foundation, so as to evaluate them accurately. They needed to judge whether to commit for one year or several, and whether to put all their purchases with one supplier or to spread them. They talked to industry associations, commissioned market intelligence and some formed buying groups.

A glance at reviews in a trade journal such as Inside Energy gives some idea of the great variety of types of deal on offer and other services available in the early days of the competitive market in the UK. Retailers and customers were clearly seeking to establish how best to buy and sell electricity.

Out of this process there gradually emerged a set of prices for a more or less standardised set of products. The process established which product attributes were most significant, and put numbers on these. That is, the market established not just “the retail price of electricity”, but also whether location or size of each customer’s consumption were important, and how the price depended on load factor, the degree of cover, duration of contract, and so on.

No one claims that this process is “perfectly competitive”. There are always slightly different prices in the retail market at any time, which may reflect ignorance or slightly different contractual terms or different policies, or different judgements about the likely course of the market. There are elements of market power in the retail as well as wholesale market - for example, when a few suppliers who are also generators might have better ability to offer contractual cover in some sectors of the market, or perhaps the ability to influence Pool prices. Perhaps some incumbent retailers can take advantage of ignorance or indolence on the part of some of their customers.

The situation is always uncertain and constantly changing over time, in the light of changing weather conditions, level of economic activity, uncertain movements in generation prices, learning and experimentation on the part of customers and retailers, especially in relation to profits or losses incurred, including in relation to peer groups. So market prices are constantly changing over time, in directions that cannot fully be predicted, reflecting all the relevant factors that impinge upon them.

A simple example will illustrate the learning process. One generator, new to the market, thought it prudent in the first year of competition to offer the same structure of charges as the distribution companies had previously offered for many years (that is, a Standard Time Of Day or STOD tariff), but with a specified percentage reduction on each component. In the second year, in response to customer requests for simplicity, it offered a single all-in-one price per unit, covering energy cost, metering cost, charges for use of distribution and transmission system, with no separate elements for fixed charge or any distinction between night and day charges. This proved very popular. But the company found, to its dismay, that the customers no

longer had any incentive to restrain their usage at the expensive peak hours, and indeed its offer had appealed most strongly to precisely those customers who most wanted to expand usage at such hours. In the third year, severely burned, the company reverted to a distinction between peak and off-peak prices.

The social value and social cost of retail price competition

Perhaps the above is taken for granted in Joskow's paper. But if so, I cannot think that it is correct or helpful to claim that "if buying electricity in the wholesale market and then simply selling it at retail is the primary way that Electricity Service Providers envisage engaging in retail competition, there is little social value associated with it." (p. 17) What I have described is precisely the process of buying electricity in the wholesale market and selling it at retail. But this is a complex process not a simple one. The social value it provides is to establish (retail) prices, which are the best that suppliers can offer at any time, and to identify how these prices differ by product attribute.¹⁵ The consequence is that both retailers and customers can make more informed decisions about, respectively, what to supply and what to consume. Moreover, the process not only tends to identify the best prices on offer (and eliminate the worse ones). It also tends to identify the best suppliers and (indirectly) the best generators, in the sense that those who best perceive and supply what customers want, on an economical basis, will tend to survive and expand. Those that are less efficient will tend to disappear, initially by losing market share and/or profits, later by being taken over.

The relevant question, surely, is not whether this competitive market process provides social value. In the absence of regulation it presumably provides the same kind of social value that it does elsewhere in the economy. The relevant question is whether supplementing or replacing the competitive market process could provide greater value. Specifically, the competitive process might be supplemented by retaining some form of regulation of prices or profits, or by imposing a new obligation on distribution companies to provide BES; it might be replaced by imposing such an obligation while continuing the monopoly on electricity supply.

The paper notes that, "retail competition may be socially costly as a consequence of increases in aggregate marketing, advertising, promotion, billing, settlement and transaction costs associated with competition". (p. 17) This is true only in the sense that there are always costs to operating a competitive market, and some of these costs may be higher than the comparable costs in a monopolised or regulated market. These particular costs are discussed below. But to evaluate the alternatives properly, one needs to look also at the full costs and possible consequences of supplementing or replacing the competitive process. I shall argue later that these latter options do not provide the same extent and degree of benefits as the competitive market, and at the same time have greater costs and adverse consequences than the paper acknowledges.

Examples of improved services from retail electricity competition

¹⁵ Cf. Kirzner, op.cit. Also F A Hayek, "The Meaning of Competition", chapter V in Individualism and Economic Order, Chicago: The University of Chicago Press, 1948, and "Competition as a Discovery Procedure", chapter 12 in New Studies in Philosophy, Politics, Economics and the History of Ideas, Chicago: The University of Chicago Press, 1978, pp. 179-90.

The paper notes that competitive electricity retailers can provide a service in offering hedges against spot prices and against weather. As noted above, and as discussed further below, hedges are not just an optional extra. Especially in the form of contracts for differences around a Pool price, they are typically the vehicles by which competition takes place, in the retail as well as the wholesale market. So the process of offering hedges is an intrinsic part of the process of retail price formation.

I would expand the paper's discussion here to include the role of retailers in creating and discovering new and more attractive terms on which electricity can be sold, particularly with respect to price. Retailers alert customers to the existence, potential merits of and implications of the alternatives available, and they can provide up to date information about present and conjectured future prices of these alternatives. The following are five concrete examples.

Before privatisation, certain "extra large" customers in Britain had received lower prices in return for signing interruptible contracts that in practice were never interrupted. After the competitive market was opened, retailers found that better-defined interruptible contracts provided an option midway between fixed price and Pool price that (after some initial shocked protests) proved attractive to customers. In Norway, I understand that many retailers offer Pool price plus a guarantee or insurance that price charged will not exceed a specified level.

For large customers, an early benefit of retail competition was the willingness of suppliers to offer greater flexibility of billing: either monthly or quarterly or, in principle, any other frequency; either site by site or aggregated; and with whatever degree of analysis of usage the customer wanted. Information about usage at individual sites, for example, has enabled the energy management centres of some supermarket chains to identify where faulty freezer equipment needs replacing.

For residential customers, a benefit of retail competition has been the willingness of some suppliers to offer tariffs without fixed monthly charges. It has long been a complaint of some small users that they have to pay regardless of whether they use any electricity. It may be that some costs are incurred even if a customer uses no electricity, and that customers have to pay for this in some other way. Rival suppliers are pointing this out in their advertising. But the point is that retail competition is delivering, as an option, a preferred way of charging that was previously refused.

Several suppliers have sought to develop services of particular relevance to disadvantaged customers. For example, "We, as a national player, decided that we were going to target all aspects of the public, not just the rich or more affluent. We wanted to be an energy supplier to everybody. This includes the poorer members of society, which also includes many elderly people. Many of these older people were the least comfortable with the opportunity to switch electricity supplier. So, we worked with Age Concern to develop a product that would help old people to switch, get better value for money day-to-day, and also provide them with fuel saving benefits during the winter, including cold weather payments."¹⁶

¹⁶ Interview with Nick Baldwin, Executive Director, UK Operations, PowerGen, in Power UK, Issue 75, 31 May 2000, pp. 6-10, at p. 8.

In similar vein, one retailer has recently proposed to offer residential electricity at a fixed price per month, dependent on the size of family and type of house, but independent of the actual consumption. This could have attractions for those customers for whom the uncertain size of the electricity bill presents problems. The company hopes to offer a significantly lower price to these customers by reducing customer service costs (specifically, the risk of non-payment and the cost of recovering late payments). It suggests this can be done if the customers (and the government) agree to deducting at source the electricity costs from government payments to low income customers under the so-called Fuel Direct scheme.

Stimulating competition in generation

Joskow's paper refers next (pp. 22-4) to the potential social value of a robust retail market, in improving the performance of the wholesale market. Two main examples are given. First, retailers can stimulate greater price responsiveness by customers and greater forward contracting, which can reduce the incentives for generators to withhold supply and drive up prices. Second, a greater diversity of buyers in the wholesale markets can increase liquidity and increase opportunities for generators to lay off risks at competitive market prices.

The argument is valid, but UK experience suggests that retail competition stimulates competition in generation to a greater degree than these examples suggest.¹⁷ The difference is between an active and passive buying side of the market. A retailer exposed to competition knows that it has already lost customers and may lose more if its prices are not competitive. It knows that it has won customers elsewhere and can win more if its prices are competitive. It knows that the effectiveness of its buying strategy will be directly translated, not only into market share, but also into the bottom line profit and loss of its business. In contrast, a retailer with a monopoly over all or a significant part of its customer base¹⁸, with arrangements to pass through reasonable purchasing costs, is not exposed to any such risks on market share. It knows that (subject to the detail of regulatory process) its profit is broadly independent of its wholesale purchasing strategy.

The differences in strategy are manifest in various ways. Examples include the time and effort that a retailer will spend trying to find, negotiate for and secure the best price; the willingness to take exposed positions if contract cover is not available on acceptable terms; the duration of forward contracts accepted; the imagination and effort put into designing and considering new contractual forms; the willingness or otherwise to accept non-price elements of deals, and so on. The differences are manifest, too, in a greater willingness to seek out generators with whom to trade, perhaps smaller ones or those embedded in local distribution networks or on-site generators, that it might not otherwise have been worth approaching. Importantly, there is a greater willingness to encourage new entrants into generation provided this offers competitive advantage, whereas monopoly retailers with generation pass-through arrangements may be indifferent to this or may encourage uneconomic entry.

¹⁷ See also the examples in Goulding et al., *op. cit.*

¹⁸ Residential and small business customers typically account for around half the total market demand.

The net effect of all this is that opening up retail competition puts greater pressure on generators to offer better deals. There is a keener wholesale market, offering lower prices and greater responsiveness as a result of greater efficiency, greater participation by incumbents and new entrants, and greater need to innovate in response to customer demand.

Measuring this is not straightforward but some evidence from the UK may be relevant. During the four years 1994/5 to 1997/8, the average generation cost reportedly incurred by Public Electricity Suppliers to supply the monopoly franchise market was about 17% higher than Pool price. Part of this was attributable to contracts entered into before privatisation, or facilitated by the Government to assist the coal industry. The average ratio of cost to Pool price for such contracts was about 20%, compared to about 14% on the contracts entered into on a more commercial basis¹⁹. In contrast, the average ratio of costs to Pool price in the competitive non-franchise market was very much lower and often not much above Pool price.

The figures should not be taken too precisely. They reflect amongst other things the ratio of contract prices signed several years earlier to the subsequent course of Pool prices that could have turned out quite differently. They also reflect the allocation of contract costs between markets, which was no doubt influenced by the existence of a monopoly franchise and a pass-through price control. Nonetheless, they suggest that suppliers in monopoly markets are more subject to non-commercial influences and less keen to achieve the lowest available purchase prices.

Other social benefits of retail supply competition

The paper rightly mentions that the social value of the robust retail market is manifest in a more liquid wholesale market. But it limits the explanation to the increased number and diversity of buyers in the markets, in the sense of more and different electricity retailers. What has been more striking, in Britain and no doubt elsewhere, has been the growth of financial intermediaries (including subsidiaries of some retailers themselves) that have been willing to take risks, arbitrage positions, and put together attractive packages for retailers from disparate components offered by generators or other intermediaries. An important factor in the growth of these intermediaries has been the increased keenness of retailers' demand, stimulated by retail competition, for the products that financial intermediaries can offer.

Active retailers will seek to reduce costs at all stages of the supply chain. The paper notes the potential opportunities to reduce the costs of retailing per se, and to secure lower generation costs by bilateral forward contracts. We have noted above the broader scope for reducing generation costs (and risks). This leaves the costs of transmission and distribution. Active retailers will seek ways to reduce these too. Examples include encouraging on-site generation (the paper mentions this only as a means to provide higher quality service rather than lower price) and combined heat and power plants, installation of larger generation capacity than the on-site demand (to sell the balance to market), installation of direct links between local generation and local demand (by-passing the local distribution network), construction of (more) interconnections between adjacent systems, and so on. The social benefit, in addition

¹⁹ Office of Electricity Regulation (OFFER), Yardstick of Electricity Purchase Costs, 15 August 1996, and PES Supply Business Maximum Price Restraints, July 1999.

to the lower costs resulting, includes the greater pressure for efficiency put on transmission and distribution businesses - for example, in terms of new investment decisions, operating and construction costs, relating prices to costs, innovation, and attitude to customers.

IV Retail Competition and Electricity Prices

Benchmark Prices and Present Retail Service Costs

The next section of Joskow's paper (pp. 24-8) seeks to develop a set of benchmark prices and costs against which to assess the potential social value of competitive retailers if simply reselling electricity is their primary activity. The paper discusses the various components of electricity price, particularly the "retail margin". This represents the costs that present incumbent utilities incur to provide those customer services that can be provided by alternative suppliers. The subsequent section of the paper (pp. 28-32) attempts to estimate the magnitude of some of these incumbent retailing costs, and concludes that they are relatively small, averaging between 3.3% and 4.7% of total retail revenue. The paper argues that, in consequence, even if these costs were reduced under competition, there would be little benefit to customers. In practice these costs would be likely to increase, and in the absence of reductions in other retailing costs or the sale of other value-added services, it would be necessary for retail prices to increase also.

The paper then (pp. 32-8) explores the distribution of retailing costs between different classes of customers. It argues that retailing costs are largely related to number and type of customer rather than to quantity of electricity demand. Whether retail costs are allocated per kilowatt or per customer makes a significant difference to the assumed retail cost per customer, incurred by incumbents, which is what competitive retailers have to beat. This in turn will influence the extent and nature of retail competition. This section of the paper (actually, the first paragraph of the next section, on p. 38) concludes that retail competition is unlikely to provide much value-added over a BES option. It may lead to higher retail costs and prices. It can stimulate cream-skimming and uneconomic entry as a result of incorrect unbundling of retail costs. It is likely to require significant rate rebalancing that will increase prices for small users and require the adoption of standard commercial practices for customers who pay their bills late or are credit risks.

These calculations are particularly useful if, as it seems, they have not been made before, at least on a national scale, and if the magnitudes are not familiar to those interested in the issues. They should stimulate further calculation and discussion, not least by state regulatory bodies with respect to the companies for which they have responsibility.

I am not in a position to check or comment on the numerical calculations for the US, but in general the orders of magnitude do not seem out of line with UK experience. Table 1 shows the components of turnover for the aggregate supply businesses of the 14 Public Electricity Suppliers (PESs) in Britain in 1995/96. They are shown both in total and separately for the franchise and non-franchise parts of the market.²⁰ The

²⁰ Franchise customers are those with a maximum demand less than 100kW, who did not then have access to competition. They who accounted for 71% of total PES turnover at that time.

figure of 5% for average supply business costs and profits is comparable with Joskow's range of 3.3 to 4.7%.²¹

Table 1 Components of PES Supply Business Turnover 1995/96²²

<u>Component</u>	<u>Franchise</u> %	<u>Non-Franchise</u> %	<u>Total</u> %
Generation	54	67	58
Distribution	28	19	25
Transmission	4	4	4
[Retail] Supply	6	2	5
Fossil Fuel Levy	8	8	8
Total	100	100	100

Note, however, that retail supply business costs are proportionately higher for franchise customers (6% compared to 2% for non-franchise customers). The proportion was evidently higher still for the subset of residential customers in a later year, and the regulator's proposed adjustment in cost allocation procedures was going to increase it. "Supply business costs and margins in 1998/99 accounted for about 13% of a typical domestic customer's annual bill. The proposed transfer of costs from PESs' distribution to supply businesses would increase this proportion to about 17%."²³ This implies more scope for retail competition to residential customers than does Joskow's calculation.

As elsewhere in Joskow's paper, the benchmark against which retail competition is evaluated is sometimes unclear and changing. Sometimes the comparison is with present prices under present regulatory arrangements with no retail competition. At other times (often quite suddenly) it is with distribution companies obliged to provide BES. Whether or not retail competition is also allowed in this latter case is not always specified.

To simplify the discussion, I deal in this section with the first comparison. The next major section deals with the second comparison, and more generally with the BES option. The issue to be discussed here, then, is whether allowing retail competition is likely to increase retail prices compared to those obtaining under something like the present regulatory regime with no retail competition.²⁴

Effect of retail competition on costs and prices

²¹ The British calculations exclude costs of non-PES suppliers, who could supply only non-franchise customers, so average supply business costs as a proportion of the average revenue of all suppliers would presumably be lower than 5%.

²² OFFER, The Competitive Electricity Market from 1998: Price Restraints, Third Consultation, May 1997, para 6.12, p. 36.

²³ OFFER, Reviews of Public Electricity Suppliers 1998 to 2000, Supply Price Control Review, Initial Proposals, October 1999, p. 62.

²⁴ The possibility of a transitional phase, with retail regulation being phased out over time, is discussed later.

Joskow's first claim is that retail competition is likely to increase customer service costs such as advertising, promotion and marketing, as suppliers compete to attract customers. The empirical evidence does not support this claim for large and medium-sized customers in the UK. There was apparently no increase in these costs from 1994/95 to 1996/97, after the market for medium-sized customers opened up in Britain. There was in fact a reduction in bad debt costs.²⁵ There was, however, an increase in the supply business operating costs of the PESs after the market opened completely in 1998.²⁶ Many of the suppliers were keen to retain or attract small business and residential customers and incurred significant costs in doing so.

It would be wrong to suggest, however, that prices would simply rise to cover whatever retailing costs were incurred, on a sort of cost-plus basis. The direction of causation is the opposite. The amount that competitive retailers find it worthwhile to spend to keep or attract customers is limited by the margin they can derive from such customers, which in turn is constrained by the prices in the market. Crudely, it is worth paying up to the present value of the likely profit margin, calculated over a plausible time for which the customer might stay with that retailer. This has been evident in the British market. Retailers who started out with ideas of TV advertising soon found that this was not justified by the prospective margins, and had to develop more cost-effective ways of attracting customers, initially by door-to-door selling and later by other methods.²⁷

Suppose that prices are initially significantly above the costs that an efficient competitive retailer would expect to incur. Suppose additionally that there are unexploited economies of scale in retailing. Neither of these assumptions is implausible after several decades of cost-plus regulation and/or public ownership, with fossilised market structures. In these circumstances, it is not surprising if retailers are willing to incur significant marketing costs to attract additional customers. But as retail competition intensifies, and as costs, margins and prices reduce, it is to be expected that marketing costs will also reduce, in two respects. First, the amount per customer that it will be worth incurring will reduce. Second, experience will indicate more economic or satisfactory ways to attract customers.²⁸ This is not of course to claim that marketing costs will necessarily be below pre-competition levels.

²⁵ See OFFER, *The Competitive Electricity Market from 1998: Price Restraints*, Third Consultation, May 1997, Figs. 11a&b, pp. 52-4.

²⁶ See Office of Gas and Electricity Markets (Ofgem), *Reviews of Public Electricity Suppliers 1998 to 2000, Supply Price Control Review, Initial Proposals*, October 1999, Table 7.4, p. 66. The average increase from 1997/8 to 1998/9 was 23%. This may have included one-off costs and is not necessarily a fair reflection of ongoing costs. It also reflects the companies' allocations of costs to the under 100kW and first-tier (within area) customers that may not have been unaffected by the ongoing price control review.

²⁷ For example, "Only about 50% of customers now come from door-to-door sales, originally it was 100%. We are looking to increase the internet and telemarketing to progressively reduce the door-to-door selling. Initially door-to-door was necessary to open the market up, giving people personal contact, but it is difficult to manage, leading to a number of customer complaints. ... For a customer-focussed company, you do not want to be mis-selling, you don't want to see high levels of complaints because people are not selling your product properly. It is much easier to manage and control via telemarketing, affinity schemes and the internet." Baldwin, *op. cit.*, p. 8.

²⁸ This includes by "dual fuel" offers (for electricity and gas) and for other utility services such as water and telecoms, and also by mergers and acquisitions of other supply businesses.

Joskow recognises that with retail competition, higher marketing costs could be offset by reductions in other components of retailing cost. But the scope for this could be greater than his paper allows. He notes that utility advertising expenses are less than 0.5% of retail service costs and that sales costs (including advertising) are about 5% of such retail service costs²⁹. It follows that only a 5% reduction in retail costs excluding sales costs would suffice to offset a doubling of sales costs or a tenfold increase in advertising costs.

Another important source of cost reductions is not acknowledged in the paper. That is in the cost of purchasing generation. This comprises (in the regulated monopoly but non-BES world) such combination of spot market purchases, contract costs and own generation costs as the utility chooses to engage in and the regulator accepts as reasonable. As a rough approximation (see also Table 1 above), generation purchase costs account for about 50% of retail prices, as opposed to the 5% accounted for by retail service costs. It therefore requires only a 0.5% reduction in generation purchase costs to have the same offsetting effect as a 5% reduction in retail service costs. Therefore, to continue the comparison at the end of the last paragraph, a 2.5% reduction in generation purchase costs would offset even a tenfold increase in retail sales costs or a fifty-fold increase in advertising costs³⁰.

The scope for reduction in generation purchase costs would depend on a number of factors, including regulatory policy on stranded costs and pass-through, and the nature of competition in the wholesale market. But my own view is that retail competition would lead to lower generation purchase costs, for the several reasons discussed earlier. In most circumstances the net effect would be lower prices to customers than at present rather than higher. This indeed is what we have generally seen in practice.³¹

Rate rebalancing

The paper claims that unbundling retail services and costs so as not to stimulate artificial cream-skimming is likely to require significant rate rebalancing that will increase prices to small users.³² Assume that unbundling “to reflect proper cost

²⁹ Joskow, *op.cit.*, fn. 25, p. 31. These retail service costs are separate from the costs of generation and of using the transmission and distribution systems. In the UK, the retail supply business operating costs have been divided into four components with the following average proportions: customer service and other costs including billing and customer records 58%, revenue collection 25%, bad debts 10% and advertising and marketing 7%. OFFER, Third Consultation, May 1997, *op.cit.*, para. 6.23, p. 43. The last component may correspond to Joskow’s 5% selling costs.

³⁰ To clarify the arithmetic here, if total price to customers is 100, the two relevant components are generation 50 and retail service costs 5. Contained within the latter are sales costs 0.25 and advertising 0.025.

³¹ In Britain, prices to all customers are down by about 25% to 35% in real terms, compared to those obtaining at the time of privatisation. The reductions at the bottom end of this range have generally been for extra-large industrial sites that enjoyed relatively favourable terms before privatisation. The reductions at the top end have been for medium-sized industrial customers. Reductions for residential customers were originally at the bottom end but are now moving up as a result of opening the residential market to competition.

³² I’m not sure that the figures in the paper actually show this. They suggest the range of charges that would follow from different assumptions, notably as to whether service costs are allocated per customer or per kilowatt. Unless I have missed something I don’t see where the present allocations are shown to be at the “wrong” end of the range.

causality” would indeed increase the retail costs allocated to small users (or some other class of customer). The question is then, as before with increased marketing costs, whether these can be offset by reductions in generation purchase and other costs. This is an empirical question that depends on particular circumstances. However, my guess is that, if the issue is simply the allocation of retail service costs, the scope for reduction in generation purchase costs consequent on competition should be sufficient to offset any revised allocation of retail service costs to secure “proper cost causality”.

It is not clear whether the paper regards higher prices to small users as undesirable in its own right, on distributional grounds. I assume not since the paper’s own recommendation (page 39) is that any unbundled retail service costs should reflect cost causality, which will presumably have the same effect on prices. Indeed, the paper advocates doing this unbundling properly “to mitigate cream-skimming, adverse selection, and associated waste and inequities”. This suggests that removing inequities by relating prices more closely to (properly calculated) costs is a benefit in its own right, or for reasons of allocative efficiency. That at least would be the view of most economists, in the absence of explicit provision, say at government request, for favouring particular classes of customers.

On this basis, retail competition has two additional consequences. First, it increases the political and economic pressure for improved cost allocation, both within and by the regulated utilities, in the sense of prices or charges better reflecting the “cost causality” described in the paper³³. Retail competition reduces the scope for governments and/or regulators and/or utilities themselves to favour particular classes of customers at the expense of others. More generally, it reduces the ability to favour particular interest groups, such as fuel suppliers or employees, at the expense of customers. It does not preclude such policies, if properly and explicitly mandated by government, but it does restrict the scope for “unauthorised” redistribution.

The second and related consequence of retail competition is that it provides more information as to what allocations of cost *do* reflect cost causality, than would be available from integrated utilities in the absence of competition. This better information stems, inter alia, from the performance of retail suppliers and distribution businesses trading as separate entities, from observation of the costs of new entrants into retailing and into other unbundled activities, and from the arguments put forward by a variety of parties with different interests and knowledge.

V Basic Electricity Service

In the light of his (pessimistic) conclusions on retail competition as it relates to residential and small commercial customers, Joskow argues as follows (pages 38-45). Utility distribution companies should be required to offer to all customers the option of taking Basic Electricity Service (BES), involving “the passive pass through of wholesale spot market prices”, for a transition period. This would give customers the benefits of wholesale market competition. If this were done, it could be rational not to

³³ Joskow effectively acknowledges this. “My guess is that little thought has been given to these issues in the past because the costs involved are relatively small and *there was no competition to exploit gaps between accounting costs allocations and the true economic cost of supplying retailing services to different types of customers.*” (page 33, emphasis added)

open up the residential and small commercial market to competition, so as to avoid the associated costs and complications. But as a practical matter it is too late to withdraw customer choice where it already exists, and it is not possible to predict with certainty where retail competition might bring value-added benefits. This BES policy has several attractive features, in terms of protecting customers. It would be a transitional policy, perhaps for three to five years, not a permanent one. Finally, (and a point raised several times in the paper), the success of retail competition should not be judged by the share of customers who have switched supplier.

In this section I deal with three aspects of the requirement to offer BES: the definition and calculation of wholesale spot market prices, the implications for separation of businesses, and the extent of marketing and other costs. Later sections deal with the policy issues and the market share argument.

Wholesale spot market prices

What the paper calls “the passive pass through of wholesale spot market prices” may in practice be less relevant, and less straightforward than suggested, for at least three reasons.

First, the spot market is only part of the wholesale market, and for the most part Joskow and others ignore the other part, namely the contracts market. In Britain, generators and retail suppliers have hedged almost all their spot trades in the Pool by “contracts for differences” since privatisation began. I understand that in Norway and on the Nymex exchange, electricity trades and retrades have not infrequently exceeded the underlying volume of physical trades, as is common in commodity markets. In a sense, the spot market corresponds to an unrefined raw material market. From this perspective, the spot price is “the” wholesale price only in the sense that the price of a pile of timber is the wholesale price of a table. Some do-it-yourself enthusiasts might be willing to put the table together themselves, other customers might be willing to hire someone else to do it; but most customers would prefer to buy an assembled table, and the relevant question for them is at what price the table could be bought.

Second, there may not be a “wholesale spot market” that is suited to this purpose. A clear example is provided by the contrast between present and proposed arrangements in England and Wales. For the last ten years, there has been a Pool price for each half hour, published the day before, at which essentially all buyers and sellers have to trade. Bilateral contracts for differences are struck around this price. However, the Pool is scheduled to be replaced in November 2000 by a set of voluntary bilateral physical and financial markets, for contracts of durations varying from years to hours. There will be prices set in the balancing market, determined and published by the system operator, but these are essentially penalty rates for over- and under-contracted positions. They will not necessarily or generally be representative of the prices obtaining in the short-term contract markets. Indeed they are likely to be more extreme and quite unsuitable as a basis for charging domestic customers. So whereas there is a wholesale spot market price in England and Wales that is arguably suitable for BES at the moment, there will not be such a price in future. There will be prices obtaining in the wholesale market, for a few hours ahead of the time when electricity is required, but over a period of time the average prices obtained will not be

independent of each company's trading and contracting policy and ability. The BES proposal of course seeks to avoid such subjectivity.

The position in the US varies from one jurisdiction to another. Some wholesale markets may be suitable for BES at present. But the same factors that led the UK to revise its Pool arrangements may well increasingly apply elsewhere. These factors include concerns that a uniform price means a lack of flexibility and can facilitate generator market power; the desire to introduce the demand side fully into the market; and a wish to facilitate later and finer adjustments to generation and consumption decisions, and to encourage related financial markets.

The third complication with the BES proposal is that, even where wholesale spot market prices can be objectively defined, there cannot simply be “passive pass through”. Unlike large industrial customers, residential and small commercial customers do not have half-hourly meters. It is not possible to make a one-to-one correspondence between wholesale spot market price and the customer’s consumption in the period to which that price applies. Some form of load profiling is therefore necessary. Thus, BES does not avoid the costs and complexities of profiling. This means that wholesale spot market prices must be weighted by the appropriate residential customer profile for the period in question, to produce an average price per kilowatt hour for that period. This period may be a month or a quarter, say, depending on the frequency of reading or estimating bills. The resulting average prices will naturally vary from period to period, as spot market prices change. They will vary from customer to customer according to the precise times of each customer’s billing cycle. There will also be different weights and average prices for abnormally short periods of time, notable at the beginning and end of tenancies and when customers change suppliers or tariffs.

All this can be done, of course, but “passive pass through” does not quite convey the amount of work involved. Nor does it acknowledge the cost. Profiling may not be as costly as securing consistent IT systems for transferring data, as noted in Section I above. However, there would be costs in allocating total generation costs within each company to each class of customer. The cost of billing would be greater than for a traditional fixed price tariff because the weighted average price would need to be calculated for each period for each customer, using the relevant profile, and the bill made out accordingly. Costs of dealing with customer queries and complaints might be correspondingly greater³⁴.

Advertising and marketing costs

The potential costs of advertising and marketing present an interesting dilemma. On the one hand, the paper draws attention to, and essentially deplores, the “wasteful expenditures on advertising and promotion” associated with retail electricity

³⁴ A simpler form of profile could be adopted by simply taking the aggregate load of all those customers without half-hourly meters. However, this would involve a considerable degree of averaging over customer groups with quite dissimilar load profiles. The costs and other implications of such cross-subsidisation could be significant.

competition. A prime purpose of BES is to avoid or limit such expenditures.³⁵ On the other hand, how are customers to know about the availability and merits (and risks) of BES if it is not advertised and promoted?

Here and earlier, the paper sometimes seems to fall into the fallacy of assuming that all customers know and understand everything there is to know about the goods and services on offer. In such a world, the only function of advertising and promotion is to distort their preferences to no good benefit, and at considerable social cost. In fact, however, customers do not know these things. The reason that competing suppliers have to incur advertising and marketing costs is, in important part, to alert and inform customers about the existence and merits of what is on offer³⁶.

So it would be with BES. The utility would have to tell customers what BES is, why it is offered, and what its potential advantages are. Moreover, it is no good hiding all this in the small print if the purpose is to give customers a realistic alternative choice, to enable them better to evaluate what competitive suppliers are offering, and to protect them against unscrupulous retailers. The existence and advantages of BES must be actively drawn to their attention. Why should this not imply essentially the same methods, such as door-to-door selling, that other suppliers have found necessary to promote their own products?

At the same time, the utility will presumably have a duty to explain the disadvantages of BES as well as the advantages, bearing in mind that BES may well be unsuitable for residential customers because (according to the paper) they are risk averse. This is particularly the case if, as some suggest (see below), customers should be automatically transferred to BES without having chosen this form of charging.

Because the provision of BES is an obligation to be imposed by the regulatory body, the marketing of it is not simply a commercial decision taken by the supplier. No doubt the regulatory body will give guidance as to information to be provided, the types of promotional activity to be undertaken and the levels of costs to be incurred.

With what success will utilities inform customers about BES, and what will they think of it and will they choose it? These are largely matters of conjecture. However, experience in three countries may give some guidance.

Experience in UK, Norway and a US company

³⁵ It has elsewhere been claimed that “If the default service is provided by passing through the spot-market price of electricity, utilities do not need to incur any sales and marketing costs.” Flaim, op. cit. p. 48.

³⁶ Cf. Kirzner, op.cit., chapter 4. The critical treatment of marketing costs in the paper is sometimes reminiscent of one side of the debates in the 1970s, which I thought had long been resolved. See for example Harold Demsetz, “Information and Efficiency: Another Viewpoint”, Journal of Law and Economics, Vol. XI, April 1969, pp. 1-22, and survey papers by Yale Brozen and H Michael Mann in chapter 3 of Harvey J Goldschmid, H Michael Mann and J Fred Weston, Industrial Concentration: the New Learning, Boston and Toronto: Little, Brown and Company, 1974. Also K Cowling and D C Mueller, “The Social Costs of Monopoly Power”, Economic Journal, Vol. 88, Dec 1978, pp. 727-48 and S C Littlechild, “Misleading Calculations of the Social Costs of Monopoly Power”, Economic Journal, Vol, 91, June 1981, pp. 348-63.

In Britain, large industrial customers welcomed the ability to buy at Pool price. Most suppliers (excluding the large generators) have offered Pool passthrough deals from the beginning. Some customers initially took the view that they were large enough to “self-insure” against Pool price fluctuations, and considered this risk preferable to what many regarded as overpriced hedges offered by the generators. From memory, the proportion of large-customer demand sold on Pool-price contracts once reached about 10%. (Large-customer demand was in turn about one third of total demand in the country.)

However, over time, the popularity of Pool deals waned, even amongst large customers. It was never really attractive to medium-sized customers. Possible reasons include a renewed preference for fixed prices, the general fall in generation prices, more attractively priced hedges, and the development of more refined contracts better suited to the needs of individual customers. I doubt whether more than one or two percent of industrial customers buy at Pool price now.

The competitive market for residential and small business customers has been open for over a year and a half. (The opening was phased from September 1998 to May 1999.) There is nothing to stop suppliers offering Pool-price deals to these customers. I understand that one supplier did offer such a deal with the generation cost element linked to a monthly moving average of Pool price, related to the profile cost of such customers. This was little advertised and got little response. It was attractive to some large customers that had a “tail” of small sites and premises within their purchasing remit. But after a change of management the deal was withdrawn. As far as I know no other retailer has offered Pool price terms to small business customers, and none has done so to residential customers. Nor have residential customers or customer representative groups asked for it. This presumably reflects a judgement by all UK suppliers (and customers) about the unfamiliarity and unattractiveness of the product for residential customers and the likely costs of providing and marketing it, compared to other terms that might be offered.

In Norway the market has been fully open for some time, and there is active competition for residential customers. Often this is in the form of guaranteed generation prices, which depend on the period ahead for which these are fixed (say three, six or twelve months). Unhedged Pool price contracts are also offered and some residential customers choose them, though the proportion is apparently unknown.³⁷ Interestingly, the suppliers that offer Pool price terms typically also offer a guarantee that prices charged will not exceed a specified level. According to

³⁷ It is not clear why Pool price deals are reportedly widely available to and adopted by residential customers in Norway but not in the UK. It has been suggested to me that this is because the predominantly hydro–electric system in Norway makes the Pool price more predictable there, at least within any season. But this should also lower the cost of offering fixed price deals, so the preference for Pool price is not obvious. Another suggestion is that electricity prices in Norway were widely expected to increase over time, which was thought to be reflected in contract prices. But this does not explain why retailers could not offer attractive short-term contracts. Another argument is that existing suppliers in the UK do not want to undercut their margins by offering Pool deals. But this has not stopped them offering Pool deals for larger customers, and it is not clear why it should apply to suppliers in the UK but not in Norway.

Joskow and Ruff, the distribution utilities required to offer BES would not be allowed to do this. Consumers who value such services would have to turn to other retailers.³⁸

A final piece of evidence is from the US. “In the spring of 1999, Niagara Mohawk offered residential customers a “market rate option” which allowed customers to fix their CTC charge, and to buy the commodity at a load-shape weighted commodity price. ... Approximately 2,244 (0.2 percent) of residential customers chose this option.”³⁹

None of this empirical evidence suggests that electricity supply at unhedged spot price is a product that residential (or for that matter non-residential) customers at present want to buy. Recent evidence from San Diego (see below) suggests that many are keen not to buy it.⁴⁰

Separation of businesses

As Joskow notes, electricity reform programmes have separated the distribution of electricity from the generation and supply of electricity. The extent of this has varied across the world. In Norway and New Zealand, one owner is typically not allowed to engage in both distribution and retail supply in any given geographical area. In the UK there has always been a requirement to keep separate accounts for the separate businesses. Increasingly strict regulatory rules are applied to ensure that the two different activities are undertaken by different staff in different locations using different facilities and different “cap badges”. Voluntary separation of ownership has occurred in several cases. Practice varies across the US, but the general thrust is to require that distribution businesses do not engage in retail supply activities, and conversely.

This separation is not driven by regulatory requirements alone. Many companies have found it commercially attractive to separate the two sets of activities, on the grounds that they require different skills, resources and financial funding. They have begun to specialise in one type of activity or the other. That is, some companies have chosen to

³⁸ “The distribution utilities would not be allowed to offer any value added services (hedging, special metering, joint sales of multiple products, etc.) through the utility itself, though they could be offered through an unregulated affiliate. Consumers who valued those services would have to turn to ESPs.” (Joskow, pp. 42-3) “The LDC, in its regulated activities, should not be required or allowed to take market risks on behalf of consumers, even small ones.” (Ruff, *op.cit.*, Nov. 1999, fn. 5, p. 35) (It is not clear whether this last phrase refers to small risks or to small consumers, but presumably it applies to both.)

³⁹ Flaim, *op. cit.*, p.46. Flaim notes that, following bill impacts of 20 to 30 percent in July, 102 of these 2244 customers had switched back to Niagara Mohawk’s hedged service by November 1999. She concludes that “if most residential customers don’t respond to volatility at this level, that means that they don’t really value hedging services as much as we thought. Therefore, default supply should *clearly* be based on the unhedged price of the commodity”. (italics in original) This argument is difficult to follow. Less than 5 percent of residential customers who thought they did not value hedging services changed their mind. But 99.8 percent of all residential customers continued to think that they did value hedging.

⁴⁰ To clarify my own position, I am not arguing against the principle of customers choosing to take supply at spot prices, since in some circumstances this can be beneficial to them and to the system. (Cf. Douglas Caves, Kelly Eakin and Ahmad Faruqui, “Mitigating Price Spikes in Wholesale Markets through Market-Based Pricing in Retail Markets”, *The Electricity Journal*, Vol. 13, No. 3, April 2000, pp. 13-23.) My concern is with the costs and uncertainties created when this method is imposed on companies and customers.

specialise in the relatively low-risk, capital-intensive distribution business that is a monopoly and for the most part does not deal with final customers. Others have chosen the higher risk, customer-orientated market-driven retail supply business, where fast reactions and ability to operate in the potentially volatile wholesale, retail and financial markets are crucial.

By requiring the utility distribution business to offer to supply customers directly, the BES proposal undermines both the regulatory policy and the commercial policy underlying the separation of distribution and supply activities. This is liable to compromise arrangements for cost separation and allocation, and for ensuring that distribution companies do not give preference to particular suppliers. It would also have a confusing impact on customers, who are only gradually learning about the different roles of distribution and retail supply companies, and the different telephone numbers to ring for the different services. What are they to make of this volte-face?

Costs of BES

Contrary to Joskow's argument, the costs incurred by the utility in marketing BES are likely to be higher than the costs that suppliers presently incur in marketing other competitive offers, for at least two reasons.

First, customer acceptance is likely to be lower than for electricity offered on other terms. Existing competitive suppliers have the opportunity to offer BES. Where they have chosen not to do so, they have presumably made this decision on the grounds that customers do not want it. At least, suppliers do not see the prospect of a sufficient number of customers being willing to pay the cost of providing the service, including the costs of alerting customers to its availability. Where suppliers have already voluntarily offered BES, the need for the utility to be required to offer it as well is unclear, and the likely take-up small.

If the number of residential customers choosing BES from the utility were low, either because there was no demand for it, or because other suppliers are already providing it, the service costs per customer would be correspondingly higher. Set-up costs including information and advertising costs would have to be spread over fewer customers than the costs of the more popular offerings. Assuming the relevant costs are to be charged to BES customers only, and amortised over the limited period of time for which the BES is to be made available, it must be questionable whether the total cost would be lower than that of conventional fixed price offers embodying hedges.

Second, the proposed policy increases the cost of supplying BES because it requires this service to be offered by precisely the business that has disposed of all its staff and facilities for providing such service. Since it is widely asserted that there are significant economies of scale in retail supply, the costs of requiring a non-supplier to engage in supply, on what is likely to be a very small scale, are likely to be high⁴¹.

⁴¹ It might be suggested that the supply arm of the incumbent utility be required to provide BES instead of the distribution arm. That business might also be the supplier of last resort, required to provide cover in the event that another supplier goes bankrupt. However, this would compromise the goals of separating costs and businesses, and treat differentially the retail suppliers in the market. For a recent discussion of default service options, see Taff Tschamler, "Designing Competitive Electric Markets:

V Assessing Policy Options

Joskow's paper considers two options for policy: BES in lieu of retail competition at this time, and BES to accompany retail competition. It says the first policy could be more rational, praises the state of Oregon for seeking to adopt it, and comments that one of only two arguments in favour of the second policy is weak. Nonetheless the paper reluctantly opts for the second policy. Here we consider the two policies in turn. We then consider a policy that seems to be implied in one of Joskow's comments, that was also advocated by Hogan and Ruff, namely automatic BES for all customers, to replace rather than supplement the traditional regulated tariff.

BES in lieu of retail competition at this time

Joskow's argument against allowing competition for residential customers at this time is that it would not be worthwhile. "The costs of load profiling, increased settlement complications and costs, the difficulties of reallocating retail service costs, and a variety of potential consumer protection problems may simply make retail competition for these customers a cost increasing and value reducing proposition". (p. 39)

These claims are only partly sustainable. Settlement costs are indeed likely to be higher with provision for full retail competition. There is also likely to be an initial increase in customer complaints about selling tactics, metering and billing, but these will get sorted out and reduce as acceptable procedures are devised and enforced. However, the costs of load profiling would not be avoided by not allowing competition, since adopting BES will also necessitate incurring the costs of load profiling. Nor would all the difficulties of reallocating certain retail service costs be avoided, since the paper recommends that proper reallocation accompany BES, and against any costs of more accurate allocation should be set the benefits of this.

Against these costs, the discussion earlier in this paper suggests the following benefits and arguments for allowing retail competition regardless of whether BES is required:

- it allows customers full choice of whatever terms suppliers find it worthwhile to offer, whereas prohibiting competition restricts customers to two monopoly offerings: BES and the existing regulated tariff
- it puts greater pressure for efficiency on the regulated supplier, whose efficiency in contracting is not seriously challenged by cost-pass through regulation
- it allows a greater variety of suppliers to find innovative ways of discovering and providing what different groups of customers want in economical ways (for example dual fuel offerings to reduce customers' costs as well as suppliers')
- it puts greater pressure for efficiency on the generation side of the market, and
- it reduces the proportion of the market outcome that is determined by regulation, and facilitates the withdrawal of regulation in due course as the retail market becomes competitive.

The first and apparently unchallenged argument for allowing residential customers to choose their supplier now is that it is too late to withdraw that option where it has

The Importance of Default Service and Its Pricing", The Electricity Journal, Vol. 13, No. 2, March 2000, pp. 75-82.

already been endorsed. The second and allegedly weak argument is that not allowing such choice “presumes that we can predict with reasonable certainty where retail value can be created and where it can’t be created as a result of retail competition and the innovations brought to the world by Electricity Service Providers”(p. 40). The argument is allegedly weak because “as value added opportunities begin to emerge, Oregon’s restrictions on retail competition could be removed” (fn 29, pp. 40-1). Quite how such opportunities could begin to emerge if the law prohibited them is not explained, and whether government or other policymakers could be relied upon to respond promptly and appropriately if they did emerge is not discussed. My own view is that the argument for allowing choice because we cannot predict where competition will add value is a strong one. The present paper has sought to identify several respects in which competing suppliers have already added value that Joskow’s paper has failed to identify.

The argument for deferring rather than prohibiting or allowing retail competition for small users is dealt with in only two sentences. “As time goes on and the retail market for larger commercial and industrial customers matures, the restrictions on retail competition as they apply to smaller customers can be relaxed as retail competition, consumer information, and the availability of value added services develops further. That is, at a future time when residential and small commercial customers can benefit from the “trickle down” opportunities that may be available from a mature retail market involving larger customers.” (p. 40)

It is not explained what these “trickle down” opportunities are, how the process takes place, and what happens if they may not be available. UK experience suggests that only when the residential market is due to be opened are relevant information and services demanded by customers and made available by retailers and others.

In my view, there are significant advantages in allowing retail competition for residential customers as soon as practicable. They would not be offset by the costs of providing for it.⁴² Nor are there benefits in requiring utility distribution businesses to provide BES as an alternative to retail competition. Retail competition also provides additional benefits in terms of enabling a more effective price control to be instituted and facilitating the transition to an unregulated market. These are discussed in section IX below.

BES as a complement to retail competition

The policy eventually, albeit reluctantly, recommended by Joskow is the obligation on distribution companies to provide BES in parallel with retail competition. The paper

⁴² Similar concerns about benefits and costs in Britain were expressed by Richard Green and Tanga McDaniel, “Competition in electricity supply: will ‘1998’ be worth it?”, *Fiscal Studies*, Vol. 19, August 1998, pp. 273-93. They calculated that supply competition would lead to “large transfers from electricity companies and the coal industry to consumers”, but that there would be a net social loss roughly in the amount of the additional settlement costs. However, their model effectively precluded any social gains to offset these costs because it assumed (implausibly in my view) that all price reductions were simply transfers – that is, competitive pressures had no effect on real costs. They acknowledged that “this conclusion might be reversed if competitive pressure leads to significant additional cost savings in future”. Their estimates suggested that a supply cost reduction of 10% would suffice to do this. I calculate that if even one third of all competitive price reductions in their model were translated into real savings, this would imply a net social gain from competition.

claims (pp. 43-4) that this policy has several attractive features. We discuss these in turn, focusing on what if anything the obligatory BES adds to what retail competition would otherwise provide. In some cases the comment is simply a summary of what has been argued at length above.

“First, it creates an environment where there is a transparent wholesale market price against which consumers can compare offers from competing retailers”.

This claim is somewhat overstated. BES does not affect the transparency of the wholesale spot market price, nor does it impinge on the transparency of the arguably more important wholesale contract market. It provides a profile-weighted monthly average of the wholesale spot prices obtaining in each hour or half hour over the course of each billing period. Even this is less transparent than implied: the utility would presumably not be allowed to make forecasts about the future so it could only report, to an interested enquiring customer, the levels of monthly average prices that had been charged in the past⁴³.

“Second, it forces competitive retailers to focus on adding real value to what consumers can get by simply buying in the wholesale market”.

The policy as described requires utilities to offer an option that most customers may find irrelevant; whether this constitutes “forcing” competitors to do anything is debatable.⁴⁴ Experience to date suggests that most residential customers are interested in an attractive fixed price, together with the ability to buy electricity and gas together. These are indeed what retail competitors are focusing on at the residential level in the UK, and thereby adding value to the wholesale price, without being forced to do so by any obligation on distributors to offer BES.

“Third, it helps to protect consumers from being assigned to retailers who may ultimately exploit information and transactions costs to their disadvantage”.

This claim is only understandable by reference to the Joskow-Noll paper from which the list of attractive features is taken. That paper discusses whether and what kind of default service the incumbent distribution company should offer to small retail consumers. “One view is that retail consumers should be forced to choose among competing retailers either by charging them default prices for energy that are significantly above its competitive market value *or by assigning them to retailers by lottery or auction.*”⁴⁵

It thus transpires that the intention is to protect customers from being assigned to possibly exploitative retailers by assigning them to distribution utilities who have no

⁴³ If the distribution utility (or the regulatory body) were simply to publish the profile-weighted average spot price on a monthly rolling average basis that would provide some of the information benefits that the paper seeks. Presumably it would usefully be accompanied by an estimate of the other costs of providing supply, to enable comparison with fixed price offers, including by the incumbent utility, and with other value added services. There is, however, a question over the usefulness and realism of such information if no one is prepared to supply on that basis. If other competitors are willing to supply, it is not clear that the distribution utility should be involved in supply at all, or that publication of this price information should be given preference over general information about competitors’ offers.

⁴⁴ This alleged benefit might refer to the automatic BES policy discussed in the next sub-section.

⁴⁵ Joskow and Noll, *op.cit.*, p. 1312, emphasis added.

business to supply electricity nor the necessary expertise to do so. Moreover, these “protected” customers are to be supplied on wholesale Pool price terms that are unfamiliar to them, that deprive them of prices known in advance, and that expose them to risks and uncertainties about prices and bills even though the paper claims (p.20) that most consumers are risk averse. For an indication of customers’ views about such protection, see the discussion of San Diego experience below.

The assignment policy in question is not a necessary concomitant of opening the retail market to competition.⁴⁶ If exploitation is a concern, a more straightforward way to protect consumers from such assignment is simply not to adopt it in the first place. But no evidence is provided that electricity retailers are more exploitative than are retailers generally, or that the same utilities are more exploitative acting outside of their traditional area than inside it.

“Fourth, consumers get the benefits of competition by having the opportunity effectively to buy in organised competitive wholesale energy markets reflecting the “no frills” low cost “direct wholesale access” that a distribution company can so easily provide without incurring any significant incremental costs”.

Effective retail competition itself gives customers the benefits of being able to buy in wholesale energy markets, including both spot and contracts markets. Insofar as customers value the opportunity to buy “no frills” at wholesale spot price, competitive retailers can and will provide this option. The claim that a distribution company can easily provide this service without incurring any significant incremental costs is, in my view, the opposite of the truth. For the reasons set out above, it would be more costly for a distribution company compulsorily to re-engage in retail supply activities, probably on a small scale, than for a retail supply business to do so. And if all customers are to be transferred to the utility distribution business on day one, there would be significant one-off costs of metering, billing and data transfer, not to mention the contractual implications. Presumably similar costs would be incurred again when the BES policy was withdrawn in three to five years time, and the customers were transferred somewhere else.

“Fifth, it will help to mitigate (but probably not fully mitigate) inefficient and inequitable adverse selection problems driven by differences between regulatory cost allocations and cost causality”.

The main such differences that the paper seems to envisage are that regulatory cost allocations may overstate the significance of kilowatt hour consumption relative to number of customers, and underestimate (or fail to acknowledge) the significance of individual credit records. As a result, “retailing efforts will focus on relatively high use customers with good credit records... and total retailing costs may increase as [competing retailers] spend significant sums to compete aggressively for such customers”. (p. 36)

However, this argument (which concerns misallocation of retail costs rather than distribution costs) applies only as long as the market benchmark is the regulated price (based on wrong retail cost allocations). Once this has been replaced as the market

⁴⁶ Variants of this automatic assignment policy have been adopted or considered in some US jurisdictions, but there is considerable variety of approaches. See Tschamler, op. cit.

benchmark by a competitive price (based on actual retail costs) this distortion no longer applies. In the UK market for large and medium customers, this happened very quickly, and retailers have not spent significant sums to attract customers. In the UK residential market it is happening more slowly, but a competitive market is gradually establishing itself below the regulated price cap. In particular, competitive discounts are relatively significant for customers willing to pay by standing order (thereby reducing credit costs) and such customers are relatively informed and mobile, so that the competitive market is particularly active for these customers, and any distortion from cost misallocation is likely to be small. As regards misallocated retailing effort, supply at wholesale spot price is apparently not of interest to residential customers, at least in the UK, but is already provided for large and medium-sized customers in the UK (and for residential customers in Norway). It is therefore difficult to see how obliging distribution utilities to offer BES would have any effect on the decisions of other retailers to incur costs in seeking to attract new customers.

In sum, the claimed advantages of obligatory provision of BES, to accompany retail competition, seem insubstantial. The main disadvantages, discussed earlier, are that this policy would itself increase costs, by requiring distribution businesses to engage in supply activities from which they have been deliberately divorced, and would undermine governmental, regulatory and commercial policies regarding separation. A further disadvantage, discussed in the next section, is that it is likely to increase or prolong the role of regulation in a potentially competitive electricity sector. And all to no useful purpose. If customers value BES, competing retailers will provide it.

Automatic BES for all customers

At one point in the paper, Joskow makes the following comment.

“I do not expect an enormous fraction of the residential and small commercial customers to switch under this policy [i.e. obligatory provision of BES] until ESPs [electricity service providers, or retail suppliers] figure out how to provide real value added relative to buying electricity at wholesale through the UDC [utility distribution company]. The lack of switching does not mean that customers are not benefiting from competition. They get all of the benefits of wholesale competition.” (p.44)

This argument only makes sense if, at the assumed time of opening the retail market, all residential and small commercial customers have been automatically and involuntarily transferred from their hitherto regulated tariffs of the incumbent retail supply business to the BES offered by the utility’s distribution company. There is no discussion or defence of this policy in Joskow’s paper.

This does, however, appear to be the policy that Hogan and Ruff advocated. The Public Utilities Commission would modify traditional cost-of-service ratemaking to allow the energy component of the bill to be based on the wholesale spot price. “Customers ... would receive a bill that in effect averages the spot price over the month, and they would see little different from today. ... No customers would leave

the system or change their status. Yet, the customers would become de facto direct access customers.”⁴⁷

Under this proposal, customers could get protection against risk by means of contracts without changing supplier. Hogan continues “Faced with the uncertainty and volatility of the spot price, customers may look for longer-term arrangements that would reduce or fully eliminate the risk. Generators, selling into the same market for the spot price, would have the complementary interest and would be the source of long-term contracts for those customers who felt the need. This would happen automatically and in the private market. These contracts to protect against price changes would be the functional equivalent of the long-run contracts for price differences relative to the pool that are at the heart of the long-run market in the UK system. There would be no need for state regulators to take any further action. The regulators at FERC would not be involved.”

The prospect of a reduction in scope and need for regulatory action is attractive. However, against this must be set the disadvantages of the optional BES scheme mentioned earlier, and at least four additional potential disadvantages of the automatic scheme.

First, as Ruff acknowledges, in order to reduce the costs of retail competition, the incumbent utility is required to continue to be the monopoly supplier of certain retail services such as metering, billing and call centre operation (albeit not a monopoly supplier of hedges). The scope for competition to promote efficiency and innovation in such retail supply activities is reduced compared to full retail competition. (It is not clear whether such competition could still be allowed or engineered, and whether it would be effective under such circumstances.) Ruff acknowledges this, but sees an advantage in not forcing competition in such areas when it may not be cost-effective. However, if competing services cannot easily be organised (e.g. in meter-reading) the incumbent can be obliged to continue to offer a service to other suppliers. In general, competing suppliers prefer more scope rather than less to challenge the incumbents, and curbing this scope is likely to hinder competition⁴⁸.

Second, the proponents understate the implications of the change for customers. Hogan says “they would see little that is different”. Joskow comments that “If the customer’s meter is read only once every month or once every two months and the customer’s bill is determined by running these meter reads through a group load profile, a significant amount of the variation in prices necessarily gets averaged out this way.” (p. 20) Ruff says that “The risks associated with variations in monthly-averaged spot prices will not be large for most small consumers.”⁴⁹ It has even been claimed that residential and commercial customers billed on the basis of monthly average kWh “simply will not see the volatility”⁵⁰.

⁴⁷ Hogan, Comments on Electric Industry Restructuring, *op. cit.*, p. 7. Similarly, “Require the monopoly local distribution company (LDC) to sell energy at the wholesale spot price, ..., to any consumer *or retailer* who wants to buy energy and/or other services from the LDC....This arrangement in effect defines the job of the regulated monopoly local distribution company as putting every consumer “in” the wholesale energy commodity market ...” in Ruff, “Competitive Electricity Markets”, *op. cit.* Nov. 1999, pp. 33-4.

⁴⁸ See also Tschamler, *op. cit.*

⁴⁹ Ruff, *ibid.*, fn. 5 p. 35.

⁵⁰ David Moskovitz, quoted in Flaim, *op. cit.*, fn. 11, p.54.

What would be the likely extent of the remaining monthly variation in charges? In the England and Wales Pool in 1996/97, the highest monthly (demand-weighted) average supply price (in January 1997) was about 88% above the lowest monthly average price (in May 1996). However, this ratio understates the extent of volatility because it refers to a hypothetical user taking electricity according to the national average load profile. Residential customers take a greater proportion of their electricity in peak hours hence are more vulnerable to variation in peak prices. Surprisingly, there does not seem to be a published series of Pool prices weighted by the domestic load profile. However, I have seen a calculation of quarterly average Pool supply prices in 1996/97 weighted according to a domestic load profile.⁵¹ Average winter price was 50% above average summer price for this profile. For the national profile (i.e. demand-weighted prices) the same quarterly ratio was 25%. This suggests that the ratio of highest to lowest monthly average price for a domestic profile might be of the order of $(1.5/1.25) \times 1.88 = 2.26$. That is, residential customers might face a more than two-fold difference in average wholesale price per unit from one month to another during a year. But since the wholesale energy component would comprise only about half of the total bill, the highest total price per unit would be more like 50% above the lowest total price⁵². However, the correlation between quantity used and price per unit means that the average bill could be much higher in one month than another, and to an unpredictable degree.⁵³

Flaim⁵⁴ has helpfully provided a calculation for November 1998 to October 1999 based on Niagara Mohawk's forecast marginal costs prior to the start-up of the New York ISO. The average residential wholesale commodity price ranged from a low of 2.0 c/kWh in February to a high of 5.8 c/kWh in July 1999. This is a ratio of 2.9, a little higher than the 2.26 just calculated for England and Wales. As regards total price per unit, the ratio of the highest to lowest month is 1.35 for customers using 550 kWh/month and 1.4 for customers using 1000 kWh/month, a little lower than conjectured for England and Wales⁵⁵.

Actual California experience discussed in Section VIII below suggests a greater variation there than in these last two calculations. It also suggests greater customer objection to such variation, at least when prices are unexpectedly high, than the proponents seem to admit.

The third disadvantage of automatically putting all customers on wholesale spot price is that it imposes transactions costs on those customers (and the evidence suggests that

⁵¹ Ofgem, personal communication, 28 June 2000.

⁵² If the non-energy cost per unit were equal to the average of the highest Ph and lowest Pw energy costs, the ratio of highest to lowest total price would be $(3 Ph + Pw) / (Ph + 3 Pw)$, and if $Ph = 2.26 Pw$, this ratio is 1.48.

⁵³ Ruff comments that the risks can be reduced even further through various bill-averaging methods. Requiring the utility to average price over a year, say, and to announce this price in advance, might indeed reduce the uncertainty. But this would necessitate introducing correction factors. British experience suggests that these can complicate price setting, accentuate price instability and increase regulatory involvement.

⁵⁴ *Op. cit.* p. 45.

⁵⁵ Flaim's calculations have a wholesale cost equal to about 25 % of the average residential price per unit, compared to 50 % assumed for the UK in this calculation. If the Competitive Transition Charge of 2.83 c/kWh were added to the wholesale cost of about 3.2 c/kWh, this would add up to about 50 percent.

they may be the great majority) who want to continue to purchase at a fixed price per unit. Flaim describes these costs well:

“Customers actually have to do work in order to choose another supplier.... They have to search out information on the new suppliers; find out the rules for switching; be willing to accept, listen to, or read marketing information, evaluate choices, make a selection, and then execute the choice. Customer search and hassle costs are real costs, and result in “customer inertia”, which simply means that the benefits of switching have to be large enough to induce customers to make the effort to switch.”⁵⁶

But it also means that customers who, through no decision or fault of their own, have been put into a situation that they do not find satisfactory, have to incur such customer search and hassle costs in order to escape.

To put the point in language familiar to welfare economists, there is no guarantee that simply replacing the previous regulated tariff by the wholesale spot price will make everyone or indeed anyone better off. Expected energy costs may be lower, but against this uncertainty is higher. The transactions costs of finding a satisfactory hedge may or may not be outweighed by the benefits of the lower expected energy cost. In contrast, a policy (as discussed below) of not increasing the regulated tariff, and giving customers the opportunity to choose a lower priced retailer (or to buy spot) if they think the transactions costs worthwhile, is an unambiguous Pareto improvement.

Fourth, if residential customers are accustomed to fixed tariffs, at least for a year at a time, the uncertainty associated with spot pricing could be problematic or confusing, especially for older or lower income customers. This would be particularly true at a time of changing industry structure and policy, when the variation in wholesale prices might also be greater. Concern about volatile retail prices would naturally translate into concern about wholesale markets. In turn this means pressure for regulatory or government involvement, such as price controls on wholesale markets, that might be unhelpful and that might otherwise have been avoided.

VII Transitional Issues

Joskow’s paper discusses three main issues that broadly concern the transition to full and unregulated retail competition. These are the use or otherwise of market share figures in judging the success of policy, the withdrawal of BES and price regulation, and the question of retail subsidies and “shopping credits” adopted by some US jurisdictions. I deal with these in turn.

Market shares

At several points the paper emphasises that “one cannot judge the success of electricity restructuring and competition by looking at the share of retail customers who have switched to ESPs (electricity service providers)”. (p.44) The three sentences following that proposition, quoted at the beginning of the previous subsection above

⁵⁶ Op. cit., p. 52.

and asserting that customers get all the benefits of wholesale competition, appear to be the explanation or justification for it.

The paper does not provide any further explanation of why the proportion of customers switching supplier should not be used to judge the success of restructuring and competition. It does suggest an alternative criterion, however. “One should evaluate the success of retail competition by examining the nature of the value added services that ESPs [retailers] are providing to the customers they do attract”. (p.44)

It is surely common ground that competition is a multifaceted process, and cannot be fully encapsulated in a single parameter. In deciding how retail competition was developing, for purposes of deciding whether or in what respect to continue the supply price controls in the UK, both the electricity and gas regulators identified a wide range of factors that were potentially relevant. For example, after setting out data on changing market shares, OFFER wrote

“In assessing the development of competition it may be relevant to look at, amongst other things:

- the number of competing suppliers and the range of offers on price and other terms;
- the history of entry and exit of suppliers to and from the market;
- any evidence that suppliers base their business decisions and price setting behaviour on the prospects of customer substitution in response to relative price changes;
- actual and prospective changes in suppliers’ costs, prices and profit margins;
- how suppliers compete in the market and differentiate themselves to customers (in terms of advertising, the importance of branding and quality of service);
- any evidence on how the price restraints have impacted on competition in different Public Electricity Supplier areas and for different categories of customers;
- whether there are potential suppliers not presently in the market that would be likely to enter in the event of a change of circumstances, such as a price increase by the original suppliers or a relaxation of price restraints;
- any evidence of barriers to entry;
- the extent to which customers would incur costs in switching from one supplier to another and the time that customers would need to organise such a shift; and
- the extent to which all the above factors vary between types of customers and Public Electricity Supplier areas.”⁵⁷

This list evidently includes reference to the sorts of value-added services described in the paper, but ranges much more widely, to the nature of the competitive process itself.

Having acknowledged that many factors are relevant in assessing the extent and success of retail competition, it is not clear why the percentage of customers switching to alternative retail suppliers should not be a decidedly relevant parameter. It is all very well for the paper to suggest examining the nature of the services that other suppliers offer, but how is one then to evaluate them? Unless the assessor is to

⁵⁷ OFFER, Review of Public Electricity Suppliers 1998 to 2000, Price Controls and Competition, Consultation Paper, July 1998, para 5.17, pp. 71-2.

impose his or her own value judgements, the relevant issue is surely whether these are services that customers want. The obvious way to assess that is to look (at least in the first instance) at how many customers choose to buy them. That is how economists normally assess whether a good or service provides value. The numbers or percentages of customers switching to other suppliers is an obvious and relatively easily observable measure of the extent to which new suppliers have provided alternatives that customers themselves prefer to the options that were previously available. Of course, other factors will need to be taken into account in appraising these figures, notably the existence and level of any regulated prices and any distortions in regulatory cost allocations. But market shares seem a useful first step in assessing the success of competition.

Another consideration may well be relevant in assessing the usefulness of figures on the share of retail customers who have switched supplier. The paper suggests that “the primary goal of electricity restructuring in the US is to create a system that, at the very least, would yield lower prices for consumers... holding service quality and reliability constant.” (p. 24) It also notes that “this has not been the goal ... in all countries. In many developing countries electricity prices were too low, the quality of service was poor, and the sector was unable to attract investment”. (fn 17 pp 24-5).

Perhaps a more general goal in all countries has been to increase efficiency in the industry, in meeting the needs of customers, by enabling more decisions to be taken by market participants rather than by governments or regulators. In this more general context, the share of customers switching to other retail suppliers has an additional significance. It is a measure of the share of the retail market that is operating on terms chosen by market participants themselves, rather than on prices set by a regulator.

The withdrawal of BES and deregulation

The paper contains one paragraph discussing the removal of the obligation to provide BES and the deregulation of retail prices.

“I do not anticipate that the availability of a BES of this form [i.e. obligatory on distribution businesses]... would be permanent. I see it as a mechanism to assure a smooth transition to a retail competition environment that provides real value added to all customers. The availability of BES could be withdrawn gradually over a period of years to match the development of retail competition and value added services... As the availability is withdrawn from a customer class, retail supply charges... would be deregulated for that class.” (p 45)

While the non-permanence of obligatory provision of BES is welcome news, there are several difficulties with or gaps in this proposal.

First, it is not clear why the removal of BES should be linked to the removal of price control. The logic of the paper’s own arguments (whether or not one agrees with them) would seem to suggest a case for retaining obligatory BES as a benchmark comparator, even if there were sufficient evidence of competition on conventional fixed price contracts to justify removing the price control. Obligatory BES might thus be presented as a transitional protective device for facilitating the removal of the price control. The opposite possibility is also arguable (and in my view preferable): that

obligatory BES might be withdrawn before the price control was removed, either because other suppliers were voluntarily offering it or because there was not sufficient evidence that it was valued by customers.

Second, tying the future of the price control to the future of the BES will artificially increase the opposition to removing the price control. All the customers who have signed up to BES will be deprived of their chosen form of supply, or at least of their chosen supplier. The distribution utility will presumably have to advise customers before they sign up to BES, that the service will be withdrawn at an uncertain time in the not too distant future. (The paper suggests three to five years in some areas, but as time proceeds the remaining period will be less.) Nevertheless, despite such warning, some customers are likely to be inconvenienced by and to object to the withdrawal of the service.

Third, tying removal of obligatory BES to removal of the price control begs the question of how the latter decision is to be made. In my view this is the more important and sensitive decision. This is for several reasons. All customers were originally on a tariff that was subject to price control. The regulated tariff is likely to retain more customers than any other single alternative supplier is likely to attract. Many of these remaining customers could well be more vulnerable in some way. And even those customers who switch supplier may value the existence of a regulated option. The paper gives no guidance on the issue of removing the price control. Although it sees obligatory BES as a mechanism to ensure a smooth transition to a competitive environment, it does not examine the problem of transition that regulators and others actually have to face.

Retail subsidies

The paper examines the “shopping credit” approach adopted in Pennsylvania and elsewhere. Customers choosing alternative suppliers receive a credit on their bills for each kilowatt-hour supplied by another supplier. These credits are said to exceed the wholesale market price of the electricity consumed, so that the new supplier is effectively subsidised and customers choosing alternative suppliers effectively pay less towards stranded costs than do customers staying with the incumbent utility. The paper gives evidence that “in states where regulators have used creamy shopping credits to induce customers to switch to ESPs, more customers have in fact switched to take advantage of the stranded cost discount opportunity that regulators have built in”. (p. 49)

The paper notes that some regulators justify “creamy shopping credits” as “necessary to stimulate the development of a vibrant retailing sector” (p. 55) It warns against infant industry arguments, since the infants and associated subsidies often last for decades. It acknowledges that there may be a justification for public subsidies to improve the performance of wholesale markets. However, such subsidies should be appropriately targeted, for example to support real-time metering and communications equipment to create more demand elasticity, since “general subsidies are likely only to stimulate a lot of customer churn, wasteful advertising and promotional expenditures.” (p. 56)

There has been some discussion elsewhere of the basis of setting such credits. Some have called for using estimates of the costs of efficient new entrant competitors,⁵⁸ others argue for using incumbents' incremental costs.⁵⁹ The difference is potentially large: Faim calculates the former at \$70 per customer per year and the latter at \$4. I am not in a position to evaluate the claims about shopping credits in particular US jurisdictions. However, I suspect the difference in costs may be much less than calculated. The "increment" of residential customers moving may be higher over the medium term than the 10 percent assumed, and incumbent utilities will have to update their customer interface systems and retrain their staff in order to provide new services and compete with entrants. What strikes me also is the scope for argument and entry barriers if the incumbent utility is not required to unbundle fully, with each business needing to be self-standing commercially and required to treat all customers and suppliers in a non-discriminatory way.⁶⁰

I am not arguing for subsidies to competitive retailers, though I suggested above that there is a greater social value associated with developing retail competition than Joskow's paper allows.⁶¹ Rather, a different approach may be preferable, as discussed in section IX below.

VIII Policy and experience in California

In 1994 the California Public Utilities Commission (CPUC) proposed to restructure the electric industry and open it to competition. Legislation was passed in 1996 and the new arrangements began to take effect in 1998. These included the creation of the California Power Exchange (Cal-PX) and the California Independent System Operator (Cal-ISO). There was a requirement on the three major electric utilities⁶² to divest generating plant and to buy and sell their energy through the PX (called mandatory buy/sell) until 2002. The market was opened to retail competition. Generators were allowed to charge market-based rates for energy and, from November 1998, for ancillary services. A Competitive Transition Charge (CTC) was imposed on all power sales in order to recover the stranded costs of the three major utilities, and their allowed rates were frozen after an initial reduction. The CTC was scheduled to last for a maximum of four years, until 31 March 2002, with the provision that both the CTC and the rate freeze would be removed if a utility recovered its stranded costs before then. Arrangements for after that point were somewhat unclear, but on one view the utility would transfer all its residential customers to the equivalent of Basic Electricity Service – that is, set the energy component of its charge equal to the average rate then obtaining in the PX day-ahead spot market.

A number of new suppliers initially planned to enter the market. In particular, Enron Energy Services launched an advertising campaign in October 1997 aimed at securing 10 to 15 per cent of the state residential market. But in April 1998 it announced its

⁵⁸ Jonathan M Jacobs, "Setting a Retail Generation Credit", *The Electricity Journal*, Vol. 12, No. 4, May 1999, pp. 80-7.

⁵⁹ Flaim, *op. cit.*

⁶⁰ For example, the use of narrowly defined avoidable costs in this context may involve effective discrimination between the prices charged to customers potentially leaving and those potentially staying, to the disadvantage of new entrant competitors.

⁶¹ See also Goulding et al., *op. cit.*

⁶² These are Pacific Gas and Electric (PG&E), Southern California Edison (SCE) and San Diego Gas and Electric (SDG&E).

withdrawal from that sector of the market, having achieved only about one third of one per cent of the market, and blaming the CTC amongst other things.⁶³ It appears that other competitors also lost interest, or at least were unable to make significant impact on the market. As of December 1999, only 1.7% of California's 8 million residential customers had chosen an alternative supplier.⁶⁴

Meanwhile, in the wholesale generation market, spot prices were initially surprisingly low. One article reports that out-turn average day-ahead price in the California PX in 1998/99 was \$24 per MWh for a sample subset of hours, against another study's prediction of \$30.⁶⁵ But prices were also more variable. The predicted ratio of highest to lowest monthly average price was about 1.4, consistent with the Niagara Mohawk cost-based simulation and somewhat lower than the 1.88 observed in the England and Wales Pool in 1996/97. However, the out-turn ratio was 3.3, largely reflecting abnormally low prices in the early summer of 1998.

On 18 February 1999, SDG&E announced that it expected to have paid off the generation part of its stranded assets by July 1999.⁶⁶ This was reportedly the result of the sale of its generation assets at higher than book value. As from 1 July 1999 it proposed to cut its base rate (for use of its transmission and distribution services) by 5% for most residential and small-business customers. This would be in addition to the 10% reduction embodied in the state-mandated rate freeze on 1 January 1998. The CPUC approved this proposal on 28 May 1999. The company said that henceforth the energy component of the charge would be the average price on the Cal-PX market. However, in order to avoid excessive prices in the summer, the company would impose a rate ceiling during July to September 1999, at 12.5% above present rates, with any costs in excess of that recovered over the next nine months to smooth the transition. The company also offered a voluntary Level Pay Plan to even out rates over the year.⁶⁷

There were apparently no significant difficulties in 1999/2000. But in summer 2000 generation prices began to rise sharply. Monthly average price on the California PX, which had been around \$30/MWh from December 1999 to March 2000, and only \$27

⁶³ "Enron Opts Out of Calif. Residential Market", The Electricity Journal, Vol. 11, No. 6, July 1998, pp. 10-11.

⁶⁴ CPUC Direct Access Reports quoted by Joskow, Table 4, p. 52.

⁶⁵ Robert L Earle, Philip Q Hanser, Weldon C Johnson and James D Reitzes, "Lessons from the First Years of Competition in the California Electricity Markets", The Electricity Journal, Vol. 12, No. 8, October 1999, pp. 57-76 at Table 2, p. 65. The table refers to a subset of hours; the text elsewhere (p. 61) gives the average price for the market as a whole as \$26.60/MWh.

⁶⁶ SDG&E Cuts Base Rates in Move Expected to Drive Competitive Electricity Market, 18 February 1999, and CPUC Approves Rate Decrease for SDG&E Customers, Spurs Competitive Supply Market, 28 May 1999, www.sdge.com/aboutus/newsroom/sdgnews.html. See also "San Diego Utility Plans Stranded Asset Payoff", The Electricity Journal, Vol. 12, No. 3, April 1999, p. 12; and "San Diego Utility Ends CTC Early", The Electricity Journal, Vol. 12, No. 7, August/September 1999, p. 15.

⁶⁷ According to one report, the company also proposed to the CPUC that instead of passing through California PX spot prices it should be permitted to buy electricity where it chose (ending the mandatory buy/sell) and to recover a performance-based rate (PBR) from its customers. Most of the company's cost of electricity procurement would be passed through to customers, but if this cost were lower than the California PX price, the company would get a share of the savings, and if the cost were higher, the company would bear some of the extra cost. See Carl Blumstein, "Pricing Electricity for Default Customers: Pass Through or Performance-Based Rates?" POWER Working Paper PWP-066, University of California Energy Institute, August 1999. I'm not sure what became of this proposal.

in April, rose to \$50 in May and \$132 in June.⁶⁸ This was nearly a five-fold difference between one month and another. The average daily price, under \$50/MWh for most of May, rose to nearly \$250 on one occasion and exceeded \$350 on two occasions in June. There were also problems with reliability of supply. For example, on June 14, “With voluntary curtailment of demand having failed to solve the problem, the Cal-ISO asked PG&E to institute rolling blackouts. In all, some 70,000 customers temporarily lost power.” Reasons given for these events include a shortage of plant in relation to increased economic growth, unusually hot weather causing an increased demand for air-conditioning, a failure of two power stations, lack of imports from neighbouring states also experiencing hot weather, and a change in tactics by generators, shifting between the California PX, the Automated Power Exchange (APX) and the Cal-ISO.

Because of the rate freezes mandated by the CPUC, most Californians were unaffected by the wholesale price increases, at least directly at that time. But not so in San Diego, where the California PX prices were passed straight through to 1.2 million residential customers. Apparently SDG&E had no price-smoothing mechanism in place this year. The average residential bill there increased from \$50 in monthly billing period ending April 2 to \$65 in monthly period ending June 11,⁶⁹ and there were later reports that the average was over \$100 in June, a doubling over two months⁷⁰. Not surprisingly there were complaints, from consumer groups⁷¹ and from others including SDG&E.⁷²

At the beginning of August the industry’s problems hit the front page of the newspapers for several days in a row. On August 1 PG&E implemented a voluntary load reduction program to cut power to 215 industrial customers, and the Cal-ISO declared a stage 2 emergency, which means that power reserves fell below 5 percent. The Cal-ISO said that it came very close to declaring a stage 3 emergency, which empowered utilities to initiate rolling blackouts among all customers. This had never before been called on a statewide basis. Also, in response to requests from the Governor of California and the Electricity Oversight Board, the CalISO halved the maximum price it would pay for electricity from \$500/MWh to \$250, having previously reduced it from \$750. Generator representatives argued that lower price caps could create a less reliable electricity supply for consumers.⁷³

On August 2 the San Francisco Chronicle claimed to have a draft of a report by the CPUC to the Governor of California. This allegedly said that “The Bay Area blackouts, the run-up in prices in the wholesale electricity markets and the rise in retail electricity prices in San Diego show that the new system is not working for

⁶⁸ Information and quotation in this paragraph from “California Burns”, UK Powerfocus, Issue No. 2, July 2000, pp. 41-5.

⁶⁹ SDG&E spokesman quoted in Los Angeles Times, 16 June 2000.

⁷⁰ The company confirmed that monthly electricity bill roughly doubled. It is not clear how far the increases in bills were due to increased usage versus increased prices per unit.

⁷¹ “San Diego in many ways is the poster child for how not to do deregulation”, said Michael Shames, executive director of the Utility Consumers Action Network, a 42,000-member group based in San Diego, where the average monthly residential bill rose in June to more than \$100, from about \$50.” New York Times, July 29, 2000, p. A7.

⁷² “S. 206 Complaint Requesting the Commission to Impose \$250 cap On The Prices of Sellers,” SDG&E website op.cit. 2 August 2000,

⁷³ San Francisco Chronicle, August 2, 2000, pp. A 15, D 1,5.

California.” The paper also quoted the report as saying that “enough evidence of questionable behaviour exists” to warrant an investigation by the State Attorney General. It noted that the Federal Energy Regulatory Commission had announced the previous week that it would investigate the CalSO board, with a view to determining whether the state’s energy markets were working competitively.

During the day, the major utilities again interrupted power to hundreds of heavy users after a stage 2 emergency was declared for the eighth time since May 1. Later that day, having received the report from the CPUC and the Electricity Oversight Board, the Governor of California issued a statement terming the impact of deregulation “an unacceptable situation”. He asked California officials to speed approvals of new power plants, by submitting their findings within 100 days of receiving a completed application, and created a new Energy Reliability Task Force modelled on the National Security Council. He also asked the State Attorney General to investigate possible manipulation in the wholesale electricity marketplace in response to a doubling of average electricity bills in San Diego, the first city to face the full effects of state energy deregulation. The CPUC president was quoted as saying “Wholesale prices are out of control. The new structures don’t work.... by anybody’s measure, we have problems.”⁷⁴

On August 3 over 300 aggrieved customers descended on the CPUC. “At a packed and contentious hearing in San Francisco yesterday, state power officials faced withering criticism from consumers and politicians who complained that the state’s attempt to deregulate electricity had gone badly awry. ... Officials from San Diego provided most of the heated rhetoric. ... Instead of going down as expected, prices there have doubled in the past few months.”⁷⁵ The CPUC agreed “to study a program to allow San Diegans to equalize electricity bills over 12 months rather than having to pay rates that fluctuate widely. The PUC also allowed San Diego residents to defer paying unusually big bills until they receive their part of the \$100 million rebate [for previous overcharges] plus another \$390 million refund that was already scheduled. But the commissioners refused what all the San Diego officials most wanted: to roll back electricity rates to what they were before deregulation.”

A full discussion of these events, particularly in the generation market, is beyond the scope of this paper, but a few comments on the approach to retail competition are in order.

First, it is clear that the shift from a fixed rate per unit to the automatic pass-through of wholesale spot market prices to residential customers in San Diego, and prospectively in the rest of California, became a major cause of public concern when wholesale prices increased significantly. The combination of the new policy and the unexpectedly high prices may well have caused or at least precipitated the intervention by the Governor of California, the halving of the wholesale market price cap and at least some of the investigations now underway. At the very least it brought the operation and possible shortcomings of the whole electricity market into public focus, and raised a question mark about electricity deregulation and reform.

⁷⁴ San Francisco Chronicle, August 3, 2000, pp. A 1,15.

⁷⁵ San Francisco Chronicle, August 4, 2000, pp. A 1,19.

Second, the policy of direct wholesale access may have accentuated the extent of high and uncertain wholesale prices. Once SDG&E's rates were no longer frozen, the company was simply passing through the wholesale prices to residential and smaller business customers. It had correspondingly less incentive to act in such a way as to keep wholesale prices to a minimum⁷⁶ and I understand that the CPUC's policy precluded it from taking out "contracts for differences" to hedge against high prices. In turn, the other generators, who were not suppliers to residential customers, had greater incentive to encourage higher wholesale prices to the extent that they had fewer such contracts for differences with SDG&E. Since residential and small business customers typically account for about half the total load, this was no small consideration in the operation and bidding of generation plant, and hence in wholesale market pricing.

It might be argued that San Diego is a relatively small part (about a fifth?) of California's total energy market, and that the frozen residential rates elsewhere gave the other two utilities every incentive to keep wholesale prices down. This is because the higher the generation costs incurred, the longer it will take to pay off the stranded costs, and the greater the possibility that not all their stranded costs will have been paid off within the time interval allowed by the CPUC, terminating in March 2002. Against this, earlier expectations were that the stranded assets would have been paid off well within the allowed time, and the higher wholesale prices will increase the value of the generation assets that the two utilities are selling.⁷⁷ In any event, the mere possibility of deferring or reducing a profit does not seem as strong an incentive to minimize wholesale costs as a competitive retail market situation, or a simple price cap, where additional wholesale costs incurred represent a certain loss of profit forever.

Third, the level of the frozen residential retail prices seem to have discouraged and virtually eliminated any residential retail competition in California, at least for the time being.⁷⁸ The result is that residential customers have no effective choice of supplier or of terms of supply, except for higher prices offered in association with charities or for environmentally friendly ("green") generation. It may be that some competitors will emerge to offer hedges in response to the concerns of customers in San Diego, or that SDG&E will be allowed to do so. However, there is not much evidence of such competitors having proposed to enter over the previous year, and now the uncertainty about the political context, and possible regulatory action, are likely to have reduced the attractiveness and increased the cost of entering this market.

⁷⁶ As argued also by Blumstein, *op. cit.*

⁷⁷ See Blumstein, *op. cit.* p.4 and *The Electricity Journal*, April 1999, *op. cit.* p. 12.

⁷⁸ Recovering stranded costs by means of the Competitive Transition Charge levied on all suppliers has increased the proportion of the final price that is common to all suppliers, and correspondingly reduced the proportion that a competitor can influence by superior efficiency or better decisions.

IX The UK approach to retail price restraints and deregulation

There have thus been difficulties with pass-through of wholesale spot prices and with retail credits⁷⁹. A different approach, broadly as adopted in Britain, may be of relevance.

Problems of initial supply price controls

The electricity industry in Britain was restructured and privatised in 1989. In setting the initial price controls, the government (and investors) took the view that transmission and distribution business costs were sufficiently predictable and/or under the control of the relevant utility company that a fixed limit could be adopted for a specified period (five years for distribution). This was the now familiar RPI-X price cap constraint. A similar argument was accepted for the customer service components of the retail supply business costs, such as metering, billing, market complaint-handling and so on. But the costs of generation purchases were held to be too unpredictable and outside the control of the supply business, and also too great in magnitude relative to the other supply business costs, for a fixed price cap on them to be acceptable⁸⁰. Instead, generation costs were passed through to customers, provided they satisfied an “economic purchasing condition”.

This condition required the licensee to purchase electricity “at the best effective price reasonably obtainable having regard to the sources available....In determining the effective price... regard shall be had to any payments made or received....the licensee may additionally have regard to any considerations liable to affect its ability ... to discharge its obligations under this condition in the future, including the future security, reliability and diversity of sources of electricity available for purchase.”

Experience proved what could be (and was) expected, that enforcement of this condition would be difficult and controversial. Contract costs seemed to be high (see earlier) but the wording raised a number of difficult questions. How far was it justified to pay more for generation from coal-fired plant, to help secure a future for a domestic coal industry? What was it worth paying to encourage new entry into generation? To what extent and how far ahead and at what additional cost was it economic to hedge against variations in Pool prices?

Regulatory answers could be given to these questions, but the more the regulator restricted the freedom of the companies the more he simply substituted his own judgement for that of the market. Various alternative or complementary price control mechanisms were suggested and examined as a means to alleviate this problem, such as benchmarking companies' performance. Offer did indeed publish comparative data. However, there were always issues of comparability between companies, despite adjustments being made. The fundamental difficulty of second-guessing company judgements remained.

⁷⁹ SDG&E's proposed PBR is another possibility but Blumstein (*op. cit.*) argues that it would provide greater incentive to stifle retail competition than would wholesale pass-through, and would involve higher regulatory costs.

⁸⁰ There was an overall price cap for the first three years, but this essentially deferred rather than prevented any cost-related price increases.

It seemed to me as regulator that retail competition between suppliers was the only really objective and effective way in which pressures for efficient purchasing could be brought to bear on supply businesses, and customers could be fully protected. As explained earlier, the full significance of this competition extended beyond the retail market to the generation market. Competition at the retail level was a crucial means to secure more competitive contract prices and generally a more competitive and efficient generation sector, and to ensure that those benefits got passed through to customers.

The opportunity to modify the form of retail supply price control

The problem began to resolve itself as successive sectors of the market were opened up to retail competition, and I took the view that there was no longer a need for price regulation for large and medium-sized customers. However, the nature and extent of competition for under-100kW customers was initially uncertain. I considered it reasonable to remove the controls for the larger under-100kW customers, but prudent to retain some form of control on the prices to residential and small business customers (with an annual consumption under 12,000kWh).⁸¹ This would be transitional, and would apply only to incumbents in their own areas for an initial period of two years after that section of the market was opened to competition. But what form should that control take?

The initial argument against a fixed price constraint was that it would impose undue risk on the supplier. Admittedly the level of the price restraint could be increased to compensate for this risk, but this could lead to an undue increase in price to customers and most likely an unacceptable level of profit for the supplier. Generation cost pass-through thus “solved” the risk problem, at least for suppliers, by effectively spreading the risk over customers, but at the cost of less efficient purchasing, and less competitive pressure on the wholesale market.

The opening of retail competition for residential customers put the choice between these alternative mechanisms in a different light. Generation purchase costs were confidently expected to fall because of the ending of the previous coal-backed purchase contracts. It was possible to replace the existing pass through controls by fixed maximum price restraints, actually at lower prices than hitherto obtaining under the cost pass-through controls, and still leave the suppliers with an adequate risk and profit margin. But the significant new fact was that if this margin was higher than would obtain in a competitive market, and more generally if the incumbent supplier was relatively inefficient at purchasing or in any other respect, another competitive supplier could step in and offer a lower price. The customer did not depend wholly or even mainly on a regulatory price control for protection.

Calibrating the transitional retail supply price restraints

The level of the maximum price restraints reflected judgements about future costs. Transmission and distribution charges were reasonably predictable since they were

⁸¹ These “designated” customers accounted for 61% of consumption in the under-100kW market. See OFFER, Second Consultation, January 1997, Table 4, p. 11. The thoughts summarised in the next few paragraphs are based on five OFFER Consultation Papers in September 1996 and January, May, July and August 1997.

subject to separate price caps. Assumptions on generation purchase costs were made on the conservative side. They reflected an average over the incumbent suppliers of prices in long-term contracts previously entered into, typically from independent power producers at prices that were now “out of market”, weighted by an average proportion of long-term contracts. The remaining proportion of contracts was assumed at prices of short-term contract cover then available in the market. It was generally expected that Pool and short-term contract prices would not increase over the next two years. Assumptions on supply business costs reflected an average of those incurred by incumbent suppliers. Allowance was made for increases in certain areas as a result of competition and obligations on incumbent distribution utilities, and for certain costs having to be spread over fewer customers as a result of losing some customers to competing suppliers. A minimum margin of 1 ½ % on supply business turnover was assumed, recognising that the more efficient or successful companies would earn a higher return.

These calculations allowed the maximum price restraints to be set at levels nearly 6% lower than existing prices (in real terms), with a further reduction of 3% real the next year. With an inflation rate of about 3% this meant a small money-terms reduction in the first year and prices broadly held in money terms the next. The primary source of the reductions was the ending of the coal-backed contracts. This provided the opportunity to assure all customers that they would be better off as a result of opening the market, whether or not they chose another supplier.

The aim was not to cut the level of the price control to the minimum that could be justified by looking at prospective costs alone. The Director General had a duty to protect the interests of customers with respect to price, but he also had a duty to promote competition. The costs assumed were not unreasonable ones for customers to bear, but it was expected and indeed hoped that competing suppliers would be able to undercut them, and customers were free to move if they wished. In due course this would induce incumbents to respond by cutting their own prices. The main sources of lower prices by entrants would be lower generation purchase costs, particularly by suppliers who had little or no stranded costs from previous commitments; lower supply business costs by those who were more efficient or who could reduce costs by expansion; and a willingness if necessary to accept lower per-customer profit and risk margins. On the other hand, entrants had to incur costs of acquiring customers, which were typically greater than incumbents' costs of retaining customers.

Initial experience of retail competition

The market opened in stages, by company and by location within each company, over the period September 1998 to May 1999. In the event, all 14 incumbent supply companies entered the retail market outside their own areas, though two were in common ownership and some did not seek business very aggressively. Some of the supply companies were by this time owned by generating companies. Initially there were three other entrants: British Gas Centrica, Enron and Independent Energy. By the end of March 1999 one supplier, Centrica, had attracted nearly 60 percent of the customers that had changed supplier, four other supply companies had attracted between 5 and 10 percent each, and the other dozen suppliers accounted for the

remaining 10 percent.⁸² This pattern has apparently continued. Some of the less active suppliers are in course of being bought up by the more ambitious ones.

During this period incumbent PESs set prices to designated customers at about the level allowed in the maximum price restraints.⁸³ Prices of competitors ranged quite widely. For Standard Domestic customers paying quarterly in arrears or by direct debit, the best offer was typically nearly 10% below the incumbent's price. For Economy Seven customers, using the same payment methods but taking cheaper electricity at night-time, the best competitive reduction offered was typically under 3%. For customers paying by Prepayment Meter (PPM) for both types of supply, there were a few small price cuts offered, but most competing suppliers priced above the price restraint. Further discounts were available for "dual fuel" arrangements, taking electricity and gas from the same supplier.⁸⁴

By November 1999, when decisions had to be taken about the future of the price restraints, the market had been fully open for only six months. Nevertheless, over 3 ½ million residential customers, about 13 ½ % of the total, had switched supplier by then.

Initial proposal for revising the price restraints

The question arose as to whether the maximum price restraints should be renewed after March 2000. The present regulator (my successor) took the view that they could be removed for small business customers but should be temporarily retained for domestic customers since there was not yet enough evidence of effective competition to warrant removing them.

The next question was at what level and on what basis the new maximum restraints should be set. Ofgem's consultation paper⁸⁵ proposed that the underlying cost components should be recalculated on a similar basis as they had previously been set. The new levels would reflect price control reductions in distribution costs, evidence of lower generation purchase costs than previously assumed (predictions were for further decreases but these were not built into the restraints) and evidence about suppliers' supply business costs. On this basis, Ofgem initially proposed that the restraints would be tightened by an average of 9.9% for Standard Domestic tariffs and 6.4% for Economy Seven tariffs.

⁸² Ofgem, A Review of the Development of Competition in the Designated Electricity Market, June 1999, Figure 4, p. 34.

⁸³ Ofgem comments that three PESs priced significantly below this for Standard Domestic customers, but one of these did so partly to meet an anticipated tightening of the restraint relating to the previous price control. See Ofgem, Initial Proposals, October 1999, *op. cit.*, p. 31. In fact the other two, both Scottish companies, priced below the constraint by only 0.1% and 0.3% respectively. This suggests an error in calculation rather than a deliberate policy. Most PESs priced below the maximum levels for non-domestic tariffs. Contrary to Ofgem's comment, this does not suggest that these latter sub-caps were set at too high a level, but rather is welcome evidence that competition in the market was sufficient to protect these customers. Arguably the levels for domestic customers may have been set too low to allow such a test.

⁸⁴ The dual fuel discount offered by British Gas Centrica was £13.90 per year before VAT, worth just over 5% of the average standard domestic bill and just under 4% of the average Economy Seven bill.

⁸⁵ Ofgem, Reviews of Public Electricity Suppliers 1998 to 2000, Supply Price Control Review: Initial Proposals, October 1999.

The implications for competition

This approach might have been suitable for a price control process envisaged to last for an indefinite future. But I argued that on several grounds it was not the best basis for promoting retail competition and effecting a transition to a market where the price restraint could be withdrawn.⁸⁶

First, the maximum price restraint already limited the scope for competitors to offer price cuts, and the extent of price competition was thin. Not surprisingly, incumbents generally priced up to the level of the restraint, for each class of customer. A better measure of the competitive market price than the lowest price in the market was the upper quartile offer, between the third and fourth best offer in a market of about fifteen competitors. Whereas the best offer was typically about 10% below the restraint for Standard Domestic customers, the upper quartile offer was typically just less than 6% below. The price cap was arguably distorting competition for Economy Seven customers, where the upper quartile offer was typically just under 3% below the restraint. It was almost preventing competition for Prepayment Meter customers, where the typical upper quartile offer was only about 1.2% below the restraint for PPM Standard Domestic tariffs and 0.7% below the restraint for PPM Economy Seven tariffs.

Second, the principle underlying the approach was unhelpful to competition. The Ofgem Consultation Paper said that, “the price control needs to reflect the benefits that the competitive market is seeing”. However, the prospect of repeated tightening the control in this way would severely reduce the incentive on customers to seek out and switch to the best supplier. This would correspondingly reduce the incentive on existing suppliers to compete and on new suppliers to enter the market.

Third, the approach would suggest or reinforce in the minds of customers, politicians and the general public that price regulation was an important and permanent element of a competitive market for residential customers. If the price restraint were to be regularly adjusted to reflect the price offered by competitors, and if correspondingly few customers switched away from the incumbent, when would it ever appear appropriate to remove the price restraint? (Reflecting the discussion in the present paper, even if a multitude of suppliers offered attractive “value-added” services, who is to say that in the absence of a price restraint there would be adequate competition on price?)

Fourth, insofar as the approach induced more customers to stay with the incumbent, at a price defined by regulation, more customers would have a direct interest in the continuation of price regulation, and in driving down the level of the price restraint.

Fifth, the lower the maximum allowed price, the less likely would be the prospect of subsequent reductions in the incumbent’s price when the price restraint were removed, and the greater the prospect of price increases. The prospect of the latter eventuality, followed by calls to re-impose price regulation (and for the regulator to resign?) would again discourage removal of the restraint.

⁸⁶ S C Littlechild, “A competitive shock to the system”, *Financial Times*, 11 Nov. 1999, p. 21 and “Promoting Competition in Electricity Supply”, *Power UK*, Issue 68, Nov. 1999, pp. 12-19 (also available on Financial Times/Power UK Website www.power-ink.com).

It seemed to me that a different approach was required. In a market open to competition, customers should look to competitive suppliers, not to the regulator, to deliver the benefits of competition. Account needed to be taken of the distinctive features of electricity supply. These included the history of public ownership (and/or regulation) of the electricity sector, the importance of the product, the vulnerability of some residential customers, and the unfamiliarity of competition in retail electricity supply (to competitors as well as customers). It was therefore not unreasonable that there should be a transitional price restraint on the prices charged by incumbents. But this should essentially be limited to ensuring that the prices to the most sensitive customers did not increase, and more generally to ensuring that no one would be worse off while enabling as many as possible to be better off. Greater efficiency was indeed being achieved in the industry, as reflected in tighter price controls in transmission and distribution, lower prices in the generation market and lower costs of operating supply businesses. But to get the benefits of lower prices consequent on such efficiency improvements, customers should look to competitive suppliers.

In general, this may suggest that existing price restraints should remain unchanged even when costs reduce. There might be concerns about excess revenues prospectively flowing to the incumbent utilities if there were insufficient competition. The higher prices would themselves induce more entry provided there were no barriers, but in the interim appropriate uses could be found for any deemed excess revenues. In the US context the revenues could be used to offset stranded generation costs⁸⁷. Other uses for the excess could be found as appropriate.⁸⁸ In other circumstances frozen rates might be too low and need adjustment upwards⁸⁹.

In Britain, one modification to the restraints did suggest itself. When the original price restraints were set two years earlier, the underlying calculations and judgements were intended to be uniform across companies. In the event they proved not to be, as reflected in the very different levels of price reduction offered in the competitive market from one incumbent's area to another.⁹⁰ It seemed to me there was a case for "truing up" these restraints, by tightening those that were the most lax (so as not to make any customers worse off by raising those that were most tight). This indicated an average tightening of 1.4% rather than 9.9% for the Standard Domestic price restraints, and 1.1% rather than 6.4% for Economy Seven.

⁸⁷ Others have suggested that the proceeds of auctioning default service can be used for this purpose (e.g. Enron representative quoted in Flaim, *op. cit.*, fn. 10, p. 54)

⁸⁸ For example, the Texas PUC has required that utilities make payments towards certain environmental and other costs if the proportion of customers transferring to other suppliers is below a specified level by the end of a transition period.

⁸⁹ As Joskow points out, in many developing countries electricity prices were too low, and the sector was unable to attract sufficient investment. In such circumstances it cannot be expected that competing suppliers will initially be able to offer lower prices. However, if an initial price path is set by price restraints reflecting initial efficiencies in the sector, there will come a point at which competing suppliers are able to offer better terms as a result of superior efficiency.

⁹⁰ For Standard Domestic customers paying by quarterly credit, the upper quartile competitive price reduction varied from 2.9% to 9.1%; for Economy Seven it ranged from 0.8% to 5.5%.

Outcome

Ofgem considered this and other arguments put to it, made some revised calculations, and proposed an average tightening of 5.8% rather than 9.9% in the Standard Domestic restraints, and 2.1% rather than 6.4% in the Economy Seven restraints. It also said that it would expect to remove the price restraints entirely in a further two years time⁹¹.

Now that these revised restraints have been implemented and competitors have reacted, it is possible to recalculate the competitive margins on offer. The average upper quartile offers relative to the current price cap levels have barely changed. For quarterly credit customers the upper quartile offer now averages 5.7% compared to 5.9% for Standard Domestic tariffs and 2.8% compared to 3.3% for Economy Seven;⁹² for prepayment customers, it averages 0.6% compared to 0.7% for PPM Economy Seven tariffs and -1.2% compared to 1.2% for PPM Standard Domestic tariffs. The last comparison means that competitive offers for prepayment customers on standard domestic tariffs are now typically above rather than below the relevant price restraint on the incumbent.

Consistent with this, the average rate of switching by residential customers has so far remained about the same, at about 95,000 customers per week. The number of residential customers that have switched supplier has therefore continued to increase, and as at the end of June 2000 was over 7 million, or over 27% of the total. Figures are not presently available by customer class or payment method, but it would be surprising if many prepayment meter customers were among those switching. Removal of the price control in two years' time could also be more problematic for these customers.

X Conclusions

Retail electricity competition and the sale of electricity to residential customers at wholesale spot price are extremely topical issues. There is much that is valuable in Professor Joskow's paper on these issues, particularly the surveying of value added services that retailers can provide in electricity, the calculations of retail cost components, and the comparisons of experience in various US jurisdictions.

However, in my view the analyses in this paper, and in the arguments put forward by other proponents of similar policies, are flawed in several respects. They fail to acknowledge the role and importance of price competition at the retail level both in general and in electricity. The wholesale generation market is too narrowly construed, focusing almost entirely on spot prices and ignoring the contract markets. The costs and disadvantages of providing residential retail customers with access to the wholesale spot market, via the provision of Basic Electricity Service, are underestimated and the likely benefits are overestimated. Recent experience in San

⁹¹ Ofgem, Review of Public Electricity Suppliers 1998 to 2000, Supply Price Control Review, Final Proposals, December 1999.

⁹² Interestingly, there remains much variation in the upper quartile offers from one area to another: from 2.7% to 8.6% for Standard Domestic and from -0.3% to 6.2% for Economy Seven. The range remains at about 6 percentage points. This may suggest that a regulator's ability to fine-tune price restraints in relation to costs is more limited than might be expected.

Diego, where all residential customers have been automatically transferred to such service, suggests that this policy has at the very least caused serious concern, and may have exacerbated the problems of the wholesale market and the problems of resolving them. Admittedly other aspects of the transitional policy may also have been unhelpful.

There is no reason to treat the provision of electricity at wholesale spot price - Basic Electricity Service - any differently from other services. If customers value it, and are prepared to pay the costs involved, the competitive retail market will provide it. If customers do not value it sufficiently, it would be a waste of resources to require it to be provided. Moreover the costs incurred by distribution utilities would be higher than those incurred by retail supply businesses because the former have chosen or been required to divest themselves of supply activities. The proposed obligation on utilities to provide BES would undermine regulatory and commercial policies to secure separation of monopoly and competitive activities.

There are various ways in which regulators can protect customers while facilitating a smooth transition to a fully competitive and unregulated retail market. Obliging distribution utilities to provide wholesale spot price electricity to residential customers is not one of those.