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# Back to the Future? Regulating Residential Energy Markets

CATHERINE WADDAMS PRICE

**ABSTRACT** *Regulation in many markets is responding to ‘behavioural’ consumers who do not conform to the model of self-interested maximisation inherent in the classical economic models which informed the regulatory framework of privatised UK industries. This paper traces the discussion of residential energy prices from the opening of markets in 1996 and removal of caps on retail prices in 2002 to the call for their reintroduction at the 2017 election. Price discrimination has been a policy issue at several points on this journey, and its interpretation has changed as the market has moved from monopoly supply to a market with many firms. The focus has moved from company offers to consumer response and outcomes, incorporating the demand side as well as the supply side. As in many areas, regulatory practice runs ahead of theory, challenging economists to develop new models which can inform policy in such markets.*

**Key Words:** Regulation; Energy; Price Discrimination; Residential Markets; Vulnerable Consumers.

**JEL Classifications:** L51; L94; L95.

## 1. Background

More than 25 years after their sale, the operation of the privatised UK utilities continues to cause controversy, from assessment of how well the markets are working to Labour Party calls for renationalisation. This paper discusses changes in this argument as it moved from concern about the exercise of market power, which might restrict good offers available on the market, to

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focusing on direct regulation of the outcomes realised by consumers. The discussion is central to the process of market competition, shifting the emphasis from the supply side, in particular the menu of prices offered by companies, to the demand side and consumers' responses to those offers. In this section, we outline the background, and in the next, we focus on issues of price discrimination in the British residential energy sector. How consumers respond to the offers is discussed briefly before a concluding section on the political economy of markets and outcomes.

The British energy supply market was privatised under the Gas Act 1986 (and the Electricity Act 1989). When the industries were first sold to the private sector, there was no competition for residential customers, though the timetable for market opening was written into the Electricity Act. Residential markets were opened in 1996–1999 – by area for the gas monopoly, and within region for each of the 14 electricity regions. As well as a variety of other entrants, each regional electricity incumbent entered the other areas and the gas market, and the gas incumbent offered electricity across Britain. Regulation of the retail price was gradually reduced as the market developed, consisting of relative caps (between payment methods) from 2000 to 2002, and removed in 2002. By 2003, intensive merger activity and exit of smaller firms had virtually eliminated all but the five descendants of the regional electricity companies and British (Scottish) Gas (BG). Many firms entered from 2012 onwards, so there were about 40 suppliers to the residential market in 2017, but the 'Big 6' continued to supply around 82% of households by March 2017 (Ofgem 2017a and b).

The focus of competition was on the dual-fuel market, and within each region, the incumbent and BG continued to serve most households. Concern about the competitiveness of the industry was raised from 2008, with a major report on the industry from the regulator (Ofgem 2008) and a series of interventions, many to encourage consumer engagement, culminating in the referral of the industry to the Competition and Markets Authority (CMA) in 2014. After a two-year market investigation, the report (Competition and Markets Authority 2016a) focused on weak consumer response as a feature of the market which restricted, distorted, or prevented competition, and (re) introduced price caps on tariffs for prepayment meters. However, the debate about appropriate policy interventions has continued, fuelled by the widening gap between prices paid by consumers who stay with their supplier and those available on the market to those who switch supplier.

Of course, this pattern is not unique to energy – it is also observed in financial services, particularly banking and insurance, where those who do not seek better deals are generally charged more than those who do, and this was a feature of the CMA's report into retail banking (Competition and Markets Authority 2016b). Arguably some of these products are as 'essential' as energy, but there has been more public call for intervention in the energy market, perhaps because of its nationalised history. Moreover, energy is particularly salient to low-income households because of its characteristic, similar to many essential services, that while consumption increases with income, it does so less than proportionately, so that low-income households spend a higher fraction of their income on energy than higher-income customers do (Deller and Waddams Price 2017).

Payment for energy is generally through one of three methods: standard credit three months in arrears; prepayment, a pay-as-you-go system, so that a prepaid card releases the flow of energy from the meter; and direct debit,

where estimated annual payments are spread evenly over the year and deducted from a bank account. Prepayment arose partly as a debt repayment and control mechanism in order to enable those who owed money to suppliers to continue to receive energy, subject to payment in advance. While the number and characteristics of prepayment consumers has changed over the last three decades, they include a higher-than-average proportion of low-income households and those who may be vulnerable for other reasons. A small premium was traditionally charged for prepayment, justified by higher costs of both the more complex meter and of handling frequent small cash transactions. Prepayment and standard credit were the established payment means at privatisation, with reduction for direct-debit payment introduced in the 1990s. Further recent refinements include, for example, lower prices for 'paperless' transactions where the account is managed solely online.

## **2. Price Discrimination in Energy Markets**

Both the privatisation Acts referred to above specified that licensed suppliers 'shall not show undue preference to any person or class of persons, and shall not exercise any undue discrimination against any person or class of persons'.<sup>1</sup> These duties were directly transposed from their publicly owned predecessors, and originated from the nationalisation legislation of 40 years previously, but had never been clearly defined. Alongside these company non-discrimination requirements, the regulator was expected to have special regard to the needs of certain groups of consumers (originally those who were disabled or of pensionable age), though this duty referred particularly to the quality of supply services.

Relative charges for different payment methods in the residential markets raised concerns in 1994 when BG announced new tariffs the day after the government confirmed its intention to open the market to competition. Its revenue was subject to an overall constraint, and within this cap, it raised the basic tariff and introduced discounts for payment by direct debit, so that prepayment tariffs were about 15% higher than direct debit. In a series of reports in the late 1990s, the regulator concluded that while there was evidence of discrimination, this was not sufficient to be regarded as 'undue' in the meaning of the privatisation legislation (Otero and Waddams Price 2001a). The 2000 Utilities Act repealed the original privatisation clauses on discrimination. By this time, the industry was subject to more general requirements under the 1998 Competition Act, which required that companies who held a dominant position in any market should not discriminate between customers.

Lower prices for direct-debit consumers formed part of the entrants' strategies of targeting the consumers they wanted to attract (Otero and Waddams Price 2001b). The focus of competition through dual-fuel accounts left the descendent of the regional electricity monopolist and BG (the two former incumbents) supplying most of the households in each region, with the other four members of the 'Big 6' sharing the remainder. The 2008 review of the market raised another price-discrimination issue.

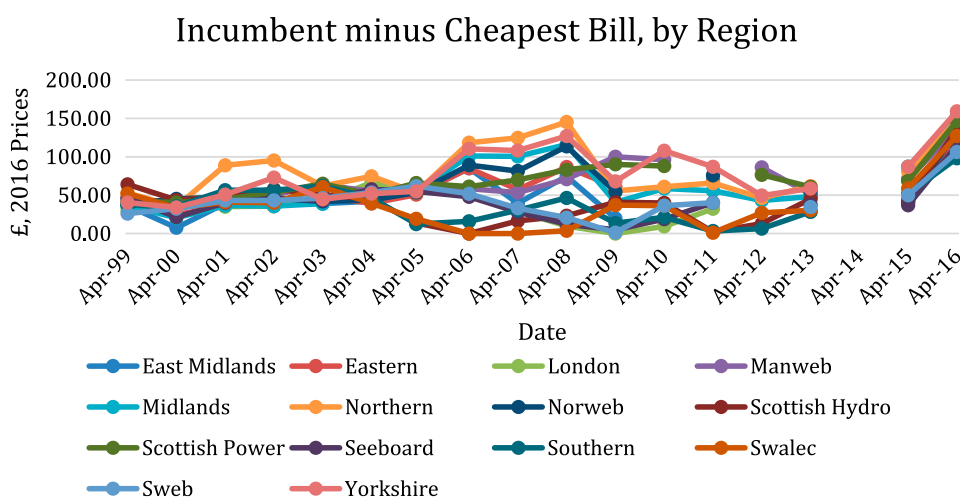
In its Energy Supply Probe report (Ofgem 2008), the regulator expressed concerns about the higher prices charged by the large suppliers to their own 'home' consumers (most of whom had stayed with the incumbent by default)

compared to prices offered by the same company in other regions, where it was an entrant. The discounts to attract new customers had widened to an average of 10%, but many consumers were not taking the opportunity to switch to cheaper deals. To prevent regional price differentials which were not based on cost differences, Ofgem introduced non-discrimination clauses in 2009.<sup>2</sup> This intervention, designed to protect consumers who were still with their home incumbents, was based on the detriment suffered by consumers who had opportunities to switch to other suppliers but did not take them. The regulator imposed limits on the companies as a response to consumer (in) action, since lower prices from entrants were available in most regions. While the price differentials did indeed decrease following the licence amendments, empirical evidence supported theoretical predictions that this was by raising the lower prices rather than reducing the higher ones (Hviid and Waddams Price 2012; Waddams Price and Zhu 2016). The clauses were not renewed when they lapsed three years later, and were criticised by the CMA for their adverse effects (Competition and Markets Authority 2016a).

As in any relatively new market, price differentials were of course needed to attract consumers from the incumbent, and they existed throughout the period of market opening, as Figure 1 shows.

Figure 1 shows the difference in each region between the incumbent's bill and the cheapest available offer for an 'average' consumer using 3300 kWh per year and paying by standard credit in 2016 prices. It demonstrates the rising differences in some regions from 2006 to 2008, prior to the introduction of the non-discrimination clauses, and their reduction afterwards. Differences rose again in 2016 to levels similar to those in 2008, fuelling recent concern about money 'left on the table'. However, more recent figures are subject to a slightly different interpretation, since they include many offers from smaller entrants, which by 2017 supplied about 15% of the market, while the 2008 figures capture only those made by the 'Big 6', which were then the only suppliers in the market. Entrants have no home region where they have inherited a group

**Figure 1.** Differential between incumbent and lowest bill, 2016 prices.



Source: 1999–2013: Consumer Focus and Which information sheets; 2015–2016: Cornwall

of inert customers, and so their prices are less likely to show regional variations.

Further discrepancies arose through offers of one- or two-year tariffs, after which consumers who took no action would default onto more expensive 'standard variable tariffs'. As more offers were made available in 2013–2017, a pattern was established of three different groups of consumers: the smallest group (up to 10%) switched annually to get the best deals; a group about twice as large switched every two or three years, so were intermittently subject to more expensive tariffs; and around two thirds of the market rarely switched, and paid the higher standard variable tariff (Competition and Markets Authority 2016c). It was in this context that the CMA reported in summer 2016.

The Competition and Markets Authority (2016a) found that 70% of consumers had stayed on 'standard variable tariffs' rather than taking advantage of cheaper offers available in the market, despite few barriers to switching and the apparently homogeneous nature of the product. They determined that weak consumer response was a feature of the residential energy market which prevented, restricted, or distorted competition, basing much of their analysis and calculation of detriment on the price gaps which they observed. They also concluded that lack of consumer engagement gave the companies a position of monopoly power over their inactive customers, which enabled them to practise price discrimination by charging them higher prices. However, the majority of the investigation group recommended demand-side rather than supply-side remedies for the bulk of the residential market.

Because they found additional barriers to switching in the prepayment market, the CMA asked the regulator to impose a temporary price cap in this market, which came into force in 2017. Their main proposed remedy for the rest of the market was construction of a database of 'disengaged' consumers who had not switched supplier or tariff in the previous three years to be made available to competitors for marketing purposes. A minority report favoured a price cap on the default standard variable tariffs, and in 2017, both the main political parties called for a wider reintroduction of price caps.

### **3. Consumer Response**

We have seen that calls for reintroduction of regulation in energy have been based on neither the market dominance of suppliers alone nor the absence of good deals for consumers, but rather on customer inertia in not exploiting these opportunities. Understanding why so many stick to more expensive supplies is important in identifying the nature of any problem and its appropriate remedy. Observation and analysis of behaviour in an auction, where those who opted in were made a personalised savings offer (Deller et al. 2017a), showed that much of the inertia could be explained 'rationally', reflecting preferences for different suppliers (despite the apparent homogeneity of the product), a lack of time, and uncertainty around savings. While a number of non-monetary factors have been identified in several studies, the factor most consistently shown to encourage switching is the presence of greater actual and expected savings, and aggregate switching rates in the

market have reflected this relationship. Conversely, switching rates have fallen when available offers have been less financially rewarding. Narrowing the price differences in the market reduces consumer switching.

Ofgem have been using behavioural insights for many years, at least implicitly, in much of their work on consumer response. In 2011, they identified four particular biases which hampered consumer engagement: limited consumer capacity, *status quo* bias, loss aversion, and time inconsistency (Ofgem 2011). This categorisation influenced their policies, for example in trying to reduce the complexity of tariffs in their Retail Market Review (Ofgem 2013), and they have continued to explore and monitor changes in consumer (dis)engagement in the market through annual surveys.

Although many consumers who were vulnerable or might face affordability issues did switch supplier, concern remained that they were over-represented amongst those paying higher prices. Evidence from the US demonstrates that, controlling for other factors, consumers in areas with lower education and income levels and higher unemployment levels are less likely to realise the potential gains from switching (Hortaçsu, Madanizadeh, and Puller 2017; Kleit, Shcherbakova, and Chen 2012). The CMA found similar patterns in Britain (Competition and Markets Authority 2016c), raising concerns about the distributional consequences of consumer inertia. New technology, such as smart meters and smart appliances, may change consumer engagement by 'automating' some responses, and enabling new forms of third-party intermediary to reduce the necessity for ongoing individual consumer choices. However, it is not clear that such technology will alleviate the distributional concerns, at any rate in the short term, since those most vulnerable to detriment are also least likely to be able to invest in and take advantage of such improvements. While the CMA was more optimistic about technical developments, it concluded that customers in vulnerable groups were at particular risk. There are thus concerns both that any unresponsive consumer is getting a poor deal, and that those in vulnerable circumstances are more likely to be in such a situation.

#### **4. Markets, Price Differences, Outcomes, and Political Economy**

Any market entrant, particularly one supplying a largely homogeneous product, depends on price differences to attract consumers, and this provides incentives to both entrants and incumbents to lower their costs and offer better deals. Indeed, such price differences could be seen as driving the market process, which is unlikely ever to deliver equal prices to all, since changing conditions require continuous adaptation. However, by 2017, many felt that the price differences were too large: they were losing patience with the market process in retail markets, and demanding more equal outcomes in the near term.

Relative prices are at the heart of this concern: the gap between the best deals available and the default tariffs. The best deals are effectively introductory offers, sometimes called teaser rates, and depend on firms' expectations of future profits from consumers not switching to a better deal as soon as the initial tariff expires. As for any switching analysis, consumer detriment needs to be considered over the lifetime of purchasing from a

company (Klemperer 1987). Most detriment is suffered by those who rarely switch.

In their 2017 election manifestos, both major parties promised intervention to constrain companies through extended price caps in order to protect not just vulnerable consumers but also more generally those who were inactive in the market. The Conservative party promised ‘a safeguard tariff cap that ... will protect customers who do not switch against abusive price increases.’<sup>3</sup> Similarly, the Labour party ‘understands that many people don’t have time to shop around, they just want reliable and affordable energy. So the next Labour Government will: Introduce an immediate emergency price cap ... while we transition to a fairer system to bill payers’.<sup>4</sup>

Both these proposals reflect impatience with the retail energy market because it is not delivering equally good outcomes to all consumers, since consumers do not all respond to the offers available,<sup>5</sup> but the proposed remedy has moved away from trying to engage consumers to restricting firm behaviour through price caps. These proposals impose direct constraints on companies as a substitute for actions which consumers are omitting to ‘take’ for themselves. The emphasis has moved from the offers which companies make available in the markets to the outcomes that are realised in terms of different prices being paid by various consumer groups. Price caps, if effective in making outcomes more equal, limit opportunity for new entrants by bringing down the ‘price to beat’ to recruit new customers and reducing incentives to both customers and firms (ACER [2016] provides some cross-European evidence).

One proposal is to narrow the gap between the charges to different groups by imposing relative price caps, that is, to limit directly the gap between the cheapest and most expensive tariff (*Guardian 2017*), mirroring the pattern when price caps were being removed at the beginning of the millennium. While proponents hope that this would bring down the higher prices towards the lower ones, they are more likely to affect the lower prices offered to potential switchers. Each firm serves a large group of ‘loyal’ customers and competes for those served by others: a relative price cap which is binding (i.e. the required gap is smaller than the company has been practising) requires it either to lower the higher price (as proponents of the cap hope) or to raise its lower price. Since the loyal consumers paying the higher prices are both more numerous and, individually, more profitable than those whose recruitment would be sacrificed by raising the lower price, the firm is more likely to keep the higher price and raise the lower price. Because all firms wish to recruit the same consumers who will show loyalty/inertia when the introductory offer expires, this effect would be less extreme than the case with the regional non-discrimination clauses, where one firm’s loyal customers are another’s ‘competitive’ market (Corts 1998). However, while relative price caps may seem intuitively attractive, they are likely to damage competition more than absolute price caps through tying the competitive and ‘unresponsive’ sides of the market. They would eliminate some of the best deals in the market and provide no guarantee of lowering prices paid by loyal consumers.

The focus on relative prices seems to have brought the energy market back full circle to a political consensus that the market requires regulation to deliver equivalent outcomes rather than equal opportunities. Indeed, it is ironically the ready availability of good possibilities from switching which brings about the



call for reform because it emphasises the different outcomes which result from variations in consumer behaviour. Focus has moved away from those who are particularly vulnerable or who may face particular barriers to any who do not participate in the market.<sup>6</sup> Indeed, since price caps of any kind are likely to raise the lowest prices, at least in the short term, they would potentially penalise all those who *do* participate in the market, including households who are on lower incomes or vulnerable in other ways. How far such penalties materialise depends on competition amongst the new entrants, who do not have a regional base of less active customers.

Price differentials are an inherent part of almost all real-world markets, and the focus on equal outcomes rather than equal opportunities raises fundamental questions about willingness to accept the outcomes of deregulated markets, and in particular price differences within markets. It is not clear whether concern to equalise prices is specific to the energy market because of its history and its salience for low-income groups, or whether our increasing understanding of consumer behaviour will lead to reinterpretation of the responsibility of firms and greater constraints on their activities more generally. If so, this will pose a challenge to build market frameworks which reflect new concepts of discrimination and political preferences for greater equality of outcome.

## Notes

1. Section 14(3) of the Gas Act (for supplies <25,000 therms per year) and s18(4) of the Electricity Act.
2. At the same time, it introduced similar non-discrimination requirements for the differentials between prepayment and other tariffs in response to a European directive.
3. Forward Together, The Conservative and Unionist Party Manifesto 2017.
4. For the Many not the Few, The Labour Party Manifesto 2017.
5. Ofgem has made many efforts over the past decade to encourage households, particularly those who are seen as vulnerable, to switch supplier and increase competitive pressure in the market, with limited success.
6. If the concern is for particular groups of people who find it difficult to participate for particular reasons, one possibility might be to include them in a collective switching (auction) exercise from which they had the opportunity to 'opt out', though this raises a number of practical questions (Deller et al. 2017b).

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