

6. Retail competition

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6.1 INTRODUCTION

At the initial stages of the liberalisation process, most of the design and regulatory effort was typically focused on creating efficient wholesale electricity markets. In most European countries, and many jurisdictions in the US, retail markets are still in their infancy.¹ In several jurisdictions of the United States the incumbent utility still acts as the monopoly supplier for small consumers, procuring electricity in the wholesale market and retailing it at regulated prices. In Europe, despite the introduction into law of retail competition, in some countries entry barriers have not yet been completely removed and retail price controls are still enforced.

A dynamic retail market may be beneficial to the wholesale market, increasing the responsiveness of demand to price and contributing to the development of the long-term forward electricity market.

Since retail costs account for only a small share of the total cost of the electricity service, the potential for retail competition to lower consumers' bills by reducing retail costs is limited. Therefore, most of the benefits of retail liberalisation are related to the ability of competitive retailers to provide services that are tailored to consumer preferences.

Large consumers have diverse needs of energy price certainty, sophisticated procurement strategies, and in some cases flexibility in the use of electricity. They are therefore in a position to take full advantage of retail competition. However, the value of a wider range of offers for small consumers is less evident at this stage.

Smaller consumers appear to face significant transaction costs in order to identify, assess the offers of and switch to a different supplier. As a consequence, the incumbent retailer enjoys significant market power over its passive customers. This has led regulators in most jurisdictions to retain price controls long after the legal liberalisation of electricity retailing. Even in the UK, where the electricity retail market is far more developed than in most other European countries, six years after all price controls were lifted, a prohibition of undue discrimination between residential

customers has been introduced, and further regulatory constraints for retailer pricing strategies are currently being discussed.

Only small numbers of consumers switch to a competitive retailer in markets where regulated tariffs are available. This is indicative of a complex trade-off between the protection of passive consumers against the incumbent's market power, and the development of competition in electricity retailing. No clearly superior set of policies addressing this trade-off has emerged so far.

In Section 6.2 we describe electricity retail activity and its typical risk structure. In Section 6.3 we discuss the nature and scope of the benefits of retail competition for different types of consumers. Finally, in Section 6.4 we investigate the interaction between competition and regulation in electricity retailing.

6.2 ELECTRICITY RETAILING

Like retailers in other sectors, electricity retailers bundle the inputs necessary to serve final electricity consumers. Specifically, electricity retailers:

- are responsible for procuring from the wholesale market the electricity consumed by their clients, and are liable to imbalance charges on the difference between their clients' consumption and the volume procured (see Chapter 2, Section 2.3.1);
- procure system operation, transmission, distribution and metering² services;
- design and advertise offers appealing to the different types of consumers;
- act as an interface for their clients on matters related to the electricity service; and
- issue invoices and collect payments.

The typical risk structure of electricity retailers can be outlined as follows. Electricity retailers are best positioned to take on the commercial risk, given their superior knowledge of their clients' creditworthiness. Instead, the energy price risk is typically hedged by retailers. Most small consumers are supplied under fixed-price contracts over a period of up to one or two years. In order to eliminate the possibility of gaps between the revenues collected from their fixed-price clients and the procurement cost, electricity retailers purchase electricity forward or buy financial hedges against the volatility of the spot price.

Transmission and distribution tariffs are typically passed on to the

consumers,³ as these costs are regulated, and therefore beyond the suppliers' control.

Industrial and large commercial consumers, which can accurately predict their consumption, generally agree with the retailer on the price for consumption notified at gate closure of the wholesale market.⁴ In this case the supplier is responsible for procuring the notified volume from the wholesale market, while any imbalance costs are passed on to the consumers, so that the consumers bear the risk that the imbalance price might be different from the supply prices agreed with the retailer for the nominated quantity. In contrast, small consumers are typically offered a price for their actual consumption, with no *ex ante* quantity commitment. In this case the imbalance price risk is typically borne directly by the retailer, as the party better positioned to forecast its clients' withdrawals.⁵

6.3 COSTS AND BENEFITS OF RETAIL ELECTRICITY LIBERALISATION

We shall now discuss the potential benefits and costs of the introduction of competition in electricity retailing.

6.3.1 Product Choice and Service Quality

Retail activity usually creates value for consumers by providing information about the features, quality and price of the alternative products, by making products available at convenient locations and by providing before- and after-sales customer service.

The special technical features of electricity limit the scope for creating value in some of these areas. First, electricity cannot be displayed, so retailers cannot differentiate on how they present the product to the consumers. Second, electricity is carried directly to consumers' premises via the distribution network. Therefore retailers cannot differentiate how they deliver the service or the technical attributes of the electricity that their clients receive. Finally, product returns do not occur with electricity.

However, competing retailers can create value in two important areas: the design of the energy products and the quality of their customer service. Regulated utilities generally segment markets by broad customer classes, for example, residential, commercial and industrial. Within each class, further segmentation is sometimes based on the size of the consumers. The objective of capturing different consumer preferences does not appear to be central in the traditional regulated rate design. Furthermore, in traditional tariff setting, fairness and income-distribution concerns may

be more influential than the objective of conveying the correct economic signals to consumers.

Competitive retail markets are expected to deliver more cost-reflective prices and greater product differentiation. The main differentiation between electricity products lies in the degree of price stability. Commonly observed pricing options range from fixed-price options for up to a few years to day-ahead or real-time prices. In some cases, retail prices are linked to indices that are intended to follow the dynamics of generation cost, such as gas price indices.

An increasingly important element of product differentiation is the environmental content of the offering. Popular options for the mass market include CO₂ offsets and renewable guarantees of origin. More complex packages are offered to businesses, enabling customers to diversify their sustainability portfolio.

Furthermore, retailers can add value over and above the simple supply of electricity by providing a number of related services ranging from the engineering and operation of energy facilities and energy management systems, to energy portfolio management, risk management, consulting and strategic energy sourcing.

Finally, retailers can differentiate in areas such as billing services, customer care and flexibility, as well as in attributes such as their social commitment and reputation for reliability.

6.3.2 Retailing Costs and Wholesale Procurement

Retailing accounts for a small part of overall supply costs, typically around 3–5 per cent. Therefore the scope for competition to reduce retail costs appears limited. A 25 per cent reduction in retail costs entirely passed on to the consumers would turn into a 1 per cent reduction of the bill for a typical residential consumer, a negligible amount in terms of monetary savings. In addition, retail liberalisation may lead to an increase in retail costs, especially in advertising, customer management systems (and their duplication) and transaction costs relating to the supplier switching process.⁶

Most electricity retail markets are highly concentrated. In 2009 in seven European countries the three largest suppliers' market share stood at 100 per cent or very little below. Only in four countries was the share below 50 per cent. The remaining 10 countries had total market share for their three-largest suppliers of between 58 and 97 per cent.

However, there is no compelling evidence that high levels of concentration in electricity retailing result in significant market power. In 2007 in Norway, for example – 10 years after liberalisation of retailing to small

consumers became effective – the market share of the larger retailer in each area was on average above 70 per cent, but the retail margins were small and the prices offered by the main retailers systematically close to spot wholesale prices, signalling intense competition.⁷

Finally, some argue that competitive retailers may be more effective buyers on the wholesale electricity markets than a regulated monopoly retailer, thanks to superior analysis and negotiation practices.⁸ Underlying this assessment is the idea that competitive retailers have greater incentives to minimize procurement costs than a regulated monopoly that is allowed to pass on its procurement costs to its franchised customers. This holds all the more if the monopoly retailer is also a generator, in which case high procurement costs benefit the company's generation business, without hurting its retail business. However, properly designed incentive-based regulation may provide strong incentives to the monopolist to minimize procurement cost. Furthermore, the large and captive customer base could place a monopoly retailer in a stronger bargaining position on the wholesale market and lead to lower procurement costs, especially if the wholesale market is less than competitive.

6.3.3 Wholesale Market Efficiency

A lively retail market may be beneficial to the wholesale market. In the previous section we mentioned the possibility that retailers could be more effective buyers in the wholesale market, compared to a regulated monopoly retailer. In addition, competitive retailers could contribute to the development and exploitation of demand-response capabilities. This would make the wholesale market less vulnerable to market power, reduce the need to resort to administratively set prices when the generation capacity is insufficient to meet demand, and possibly reduce the level of generation and transmission capacity needed. However, if consumers are load profiled, retail competition could lead to prices differing from the socially optimal levels a monopoly retailer would be able to charge.⁹

Retail competition is a necessary complement to the liberalisation of power generation for the development of the long-term contract market. Under retail liberalisation, consumers can express, through their retailers, their demand for long-term price certainty and exchange a hedge against spot-price volatility with the generators. If the retail market is not liberalised, the demand for long-term contracts from the monopoly retailer is likely to be shaped around the rules on cost pass-through set by the regulator. For example, if the regulator allows the wholesale spot prices to be fully passed on to retail tariffs, the monopoly retailer has

little incentive to buy forward in order to hedge against spot price volatility. In this case the main source of hedging for the generators would be missing.

Finally, the largest electricity retailers are typically vertically integrated in the generation business. This suggests that the relationship between wholesale and retail markets is bi-directional. An imperfect wholesale market may hinder the development of retail competition, by increasing the cost to non-integrated retailers of hedging against the variability of wholesale electricity prices, by far their most expensive input. In the UK, for example, the regulator's concern that the wholesale products currently available do not meet the risk management needs of the independent suppliers (and generators) has led to a stream of policies aimed at increasing liquidity in the wholesale market.¹⁰

6.3.4 Energy Conservation and Distributed Generation

Provided that the appropriate incentives are in place, competitive retailers may contribute to reducing the implementation costs of sustainability policies, for example by encouraging consumers' participation in energy efficiency programmes and the development of on-site renewable generation.

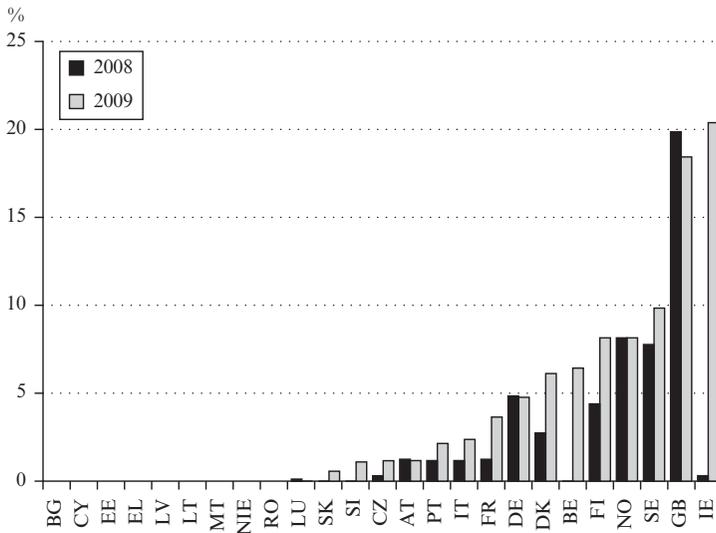
Retailers could, for example, offer bundles including the supply of electricity and possibly gas, the hosting by consumers of photovoltaic generators owned and run by the retailer, load management and possibly direct load control, and administration of consumers' participation in publicly funded energy-saving schemes.

6.4 RETAIL COMPETITION AND REGULATION

Small European electricity consumers – and among those vulnerable consumers especially – do not yet appear to fully benefit from retail competition. Despite some positive developments in several European countries, switching rates remain low in many markets, as shown in Figure 6.1. Across the EU member states, only 10.1 per cent of household consumers enquired about switching supplier in the two years prior to 2010, and 6.2 per cent actually switched supplier.¹¹

Small consumers appear to face significant transaction costs in order to identify, assess the offers of and switch to different suppliers. This results in the incumbent retailer enjoying significant market power over a large portion of its customer base.

In Norway, despite evidence of vigorous competition among the electricity retailers, the prices charged by some suppliers to customers who



Source: ERGEG 2010 Status Review of the Liberalisation and Implementation of the Energy Regulatory Framework – Ref: C10-URB-34-04.

Figure 6.1 Development of annual switching rates for households (by number of eligible meter points)

have never switched may exceed the best available offers by 10–15 per cent.¹² In the UK, the 2008 Energy Supply Probe¹³ found a range of differences in the prices charged to different types of consumers which could not be justified by cost; specifically it found that the incumbent electricity suppliers charged electricity consumers in their former monopoly areas on average over than 10 per cent more than comparable out-of-area customers, and that as many as one-third of switchers may not achieve a price reduction. More recently, in the Retail Market Review,¹⁴ British regulator Ofgem estimated that 40–60 per cent of customers in the energy sector choose not to switch. Furthermore, Ofgem considers that the growing complexity of pricing information discourages switching, as it makes identification of the most favourable offer difficult.

In Italy the regulator recently announced an investigation into the functioning of the retail market, based on preliminary evidence that some consumers supplied by competitive retailers end up paying materially more than the regulated price.¹⁵

The academic literature echoes the regulators' concerns that electricity retail competition might not deliver the expected benefits to all consum-

ers. Giuliatti *et al.*¹⁶ carried out an econometric analysis of the persistence and price dispersion of prices for residential consumers in the UK between 1999 and 2006; they found evidence of limited price convergence as a consequence of firms exploiting significant search and switching costs and creating product differentiation, as well as of significant savings opportunities from switching suppliers that were unexploited by consumers. Wilson and Waddams-Price¹⁷ measured the ability of consumers to choose efficiently between alternative suppliers, based on UK consumer survey data collected in 2000 and 2005. They found that the subsets of consumers who claimed to be switching exclusively for price reasons achieved less than 40 per cent of the maximum gains available through their choice of new supplier, and that more than 25 per cent of consumers actually reduced their surplus as a result of switching. Their analysis also leads to the conclusion that consumers' inefficient choices were not the result of the misleading influence of suppliers' marketing activity. Rather, the results are consistent purely with consumer decision error, possibly related to difficulties comparing complex tariff options.

The concern that retail competition might not deliver the expected benefits, especially to the small consumer, has led most jurisdictions to maintain some forms of regulatory intervention in retail sales. In Europe, the policy has been cast in terms of universal service:

Member States shall ensure that all household customers, and, where Member States deem it appropriate, small enterprises . . . enjoy universal service, that is the right to be supplied with electricity of a specified quality within their territory at reasonable, easily and clearly comparable, transparent and non-discriminatory prices. To ensure the provision of universal service, Member States may appoint a supplier of last resort¹⁸

The supplier of last resort is a technical device to ensure that the supplies to passive consumers – those that do not select a competitive retailer – are not interrupted when retail competition is introduced.¹⁹ Passive customers have usually been left with the former monopoly retailer, although nothing prevents them being assigned to competing retailers via auctions for the last resort service.²⁰ The directive, however, associates the last resort supplier with a broader set of customer protection objectives, which may have provided the legal basis for the decision by several European countries to maintain price controls long after the opening up of the market.²¹ In this context, the regulated tariffs²² charged by the last resort supplier are meant to protect passive consumers until they are in a position to reap the benefits of competition by engaging in the market.

As of 1 January 2010, in 18 European countries end-user regulated prices are enforced on at least one market segment – households, small

businesses, medium-sized to large businesses and energy-intensive industry. In most of these countries customers can freely leave the market and switch back to the regulated supplier. Furthermore, despite the fact that some of those countries have adopted a roadmap towards a target situation without price regulation, no commitments as to when this will happen have been taken, in particular for the residential segment.²³

Even in the UK, where all price controls were lifted in 2002, regulatory constraints to the retailers' pricing strategies have since been introduced, and further measures are currently under discussion. Since 2009 price discrimination between groups of domestic customers without an objective justification is not permitted.²⁴ In addition, Ofgem is currently considering requiring all retailers to include a standard option in their selection of offers to residential consumers, in order to facilitate price comparisons. The standard option would have a standing charge set by the regulator, while retailers would be free to set the per kWh price component. As a result the standard offers of the various retailers would vary only by the value of the per-unit rate.²⁵

Where regulated tariffs are available, only a small share of consumers switch to competitive retailers. Table 6.1 below shows the share of consumers supplied at regulated prices in the countries where price regulation is still implemented, as of 1 January 2010.

In most countries with end-user regulated prices, the share of eligible customers supplied with regulated prices is more than 80 per cent and close to 100 per cent for the residential segment.²⁶ This evidence hints at a trade-off between the protection of passive consumers against incumbent suppliers and the development of competition in electricity retailing.

No policy approach addressing this trade-off has thus far been widely recognised as superior. A thorough assessment of the measures available to the public authorities in order to minimise the trade-off between the protection of passive consumers and the development of competition is beyond the scope of this book. We merely note that, provided regulated tariffs reflect the cost borne by the supplier of last resort,²⁷ one may argue that the lack of switching is just a signal that there is no more efficient way to serve consumers. In such a perspective, the removal of price controls before widespread consumer engagement in the market for electricity has been reached appears to reflect a 'protection of the infant industry' argument, that is, the idea that the benefits delivered by retail competition once consumers learn how to take advantage of it outweigh the social cost of attracting competing retailers in the market, due to the exploitation of passive consumers cost in the initial phase of the liberalisation process.

Table 6.1 Percentage of eligible customers supplied at regulated electricity prices as of 1 January 2010 compared to July 2008

	Households		Small businesses		Medium to large businesses		Energy intensive industry	
	2008	2010	2008	2010	2008	2010	2008	2010
Bulgaria	n.a.	100.0	n.a.	100.0	n.a.	98.0	n.a.	*
Croatia	n.a.	100.0	n.a.	*	n.a.	*	n.a.	*
Cyprus	n.a.	100.0	n.a.	100.0	n.a.	100.0	n.a.	100.0
Denmark	n.a.	94.0	n.a.	95.0	n.a.	n.a.	n.a.	n.a.
Estonia	**	**	**	**	**	100.0	90.0	100.0
France	99.0	96.0	82.0	83.0	94.0	94.0	82.0	82.0
Greece	100.0	100.0	100.0	100.0	100.0	100.0	100.0	*
Hungary	100.0	100.0	n.a.	n.a.	*	*	32.0	*
Ireland	99.7	79.8	65.0	52.2	45.0	28.0	*	*
Italy	99.7	91.0	79.2	78.2	*	*	*	*
Latvia	100.0	99.0	100.0	99.0	*	*	*	*
Lithuania	100.0	100.0	100.0	n.a.	*	*	*	*
Netherlands	100.0	100.0	100.0	100.0	*	*	*	*
Poland	100.0	100.0	*	*	*	*	*	*
Portugal	97.2	92.0	95.5	88.0	99.5	39.0	100.0	62.0
Romania	100.0	100.0	99.7	n.a.	87.5	n.a.	79.2	*
Slovak Republic	100.0	100.0	*	100.0	*	*	*	*
Spain	92.0	91.0	65.0	*	n.a.	*	*	*

Note: * No end-user price regulation; ** Closed market.

Source: ERGEG Status Review of End-User Price Regulation as of 1 January 2010, Ref: E10-CEM-34-03.

NOTES

1. For the US, see Energy information Administration (EIA), 2010. *Status of Electricity Restructuring by State*, available at: http://www.eia.gov/cneaf/electricity/page/restructuring/restructure_elect.html. References for Europe are indicated throughout the chapter.
2. In some markets the distribution system operator is responsible for metering, and metering services are supplied to retailers at regulated tariffs; in others the metering activity is liberalised and retailers can procure metering services in the market or self-supply them.
3. However, some fixed-price contracts also insure consumers against changes in the regulated transmission and distribution charges for the life of the contract. In this case the risk is typically borne by the retailer.
4. Typically the maximum and minimum hourly volumes that the consumer is allowed to notify are established in the supply contract.

5. In markets designed in such a way that imbalance costs can be reduced by aggregating many consumption and generation nodes in a single balancing account (see Chapter 2, Section 2.3), small retailers may find it profitable to transfer the price imbalance risk of their clients to a party that specialises in aggregating and managing the imbalances.
6. See Joskow, P.L., 2000. *Transaction Cost Economics and Competition Policy*, available at: <http://economics.mit.edu/files/1134>; and Defeuilley, C., 2009. 'Retail Competition in Electricity Markets. Theoretical Background, Current Situation, Prospects', *Energy Policy*, **37** (2), 377–86.
7. Von der Fehr, N.M. and Hansen, P.V., 2010. 'Electricity Retailing in Norway', *Energy Journal*, **31** (1), 25–46.
8. See, for example, NERA, 2008. *Innovation in Retail Electricity Markets: The Overlooked Benefit*, available at: http://www.competecoalition.com/files/Study_031908.pdf.
9. Joskow, P. and Tirole, J., 2004. *Retail Electricity Competition*, CSEM W.P. 130, available at: <http://escholarship.org/uc/item/2rg3z1np>.
10. See, for example, Ofgem, 2011. *Retail Market Review: Intervention to Enhance Liquidity in the GB Power Market*, available at: <http://www.ofgem.gov.uk/Markets/RetMkts/rmr/Documents1/Liquidity%20Feb%20Condoc.pdf>.
11. See: Final report prepared for the European Commission by ECME Consortium in 2010, *The Functioning of Retail Electricity Markets for Consumers in the European Union*, p. 77 (Statistics based on consumer survey), available at: http://ec.europa.eu/consumers/consumer_research/market_studies/docs/retail_electricity_full_study_en.pdf.
12. However, no information is available on the share of the customers paying the higher prices. See von der Fehr and Hansen, 2010. (See n. 7, above).
13. Ofgem, 2008. *Energy Supply Probe – Initial Findings Report*, October, available at: <http://www.ofgem.gov.uk/Markets/RetMkts/ensuppro/Documents1/Energy%20Supply%20Probe%20-%20Initial%20Findings%20Report.pdf>.
14. Ofgem, 2011. *The Retail Market Review – Findings and Initial Proposals*, Reference 34/11, March, available at: http://www.ofgem.gov.uk/Markets/RetMkts/rmr/Documents1/RMR_FINAL.pdf.
15. Deliberazione, 317/2012/E/com 26 July 2012.
16. Giulietti, M., Otero, J. and Waterson, M., 2007. 'Pricing Behaviour under Competition in the UK Electricity Supply Industry', Warwick Economics Research Paper Series (TWERPS) 790, Department of Economics, University of Warwick, available at: <http://wrap.warwick.ac.uk/17/>; results along the same lines are found in Giulietti, M., Waterson, M. and Wildenbeest, M.R., 2010, 'Estimation of Search Frictions in the British Electricity Market', Warwick Economics Research Paper Series (TWERPS) 790, Department of Economics, University of Warwick, available at: <http://wrap.warwick.ac.uk/3513/>.
17. Wilson, C. and Waddams Price, C., 2007. 'Do Consumers Switch to the Best Supplier?', Working Papers 07-6, Centre for Competition Policy, University of East Anglia, available at: <http://else.econ.ucl.ac.uk/conferences/consumer-behaviour/wilson.pdf>; along the same lines, see also Wilson, C. and Waddams-Price, C., 2005. 'Irrationality in Consumers' Switching Decisions: When More Firms May Mean Less Benefit', EconWPA series, available at: <http://ideas.repec.org/p/wpa/wuwpio/0509010.html>.
18. Article 3 of Directive 2009/72/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in electricity, and repealing Directive 2003/54/EC, Official Journal of the European Union, 14 August 2009, L 211, 55–93.
19. A similar situation occurs for non-passive consumers when a supplier goes bankrupt, until its former clients find a new supplier.
20. This happens for example in Italy. The effects of assigning passive consumers to competing retailers via auctions for the 'default supplier' service are investigated by Bertoletti, P. and Poletti, C., 2012, 'Debiasing through Auction? Inertia in the Liberalisation of Retail Markets', Working Paper no. 47, IEFÉ Bocconi University

- Milan, January, available at: http://economia.unipv.it/pagp/pagine_personali/pborto/papers/deb.pdf.
21. Also along the same lines is the Communication from the Commission to the Council and the European Parliament. Prospects for the internal gas and electricity market, COM 841 final, 2006. The European Commission states: 'Well targeted universal and public obligations, including proportionate price regulation, must remain an integral part of the market opening process . . . Many Member States have retained controls on end-user prices. Although price controls prevent suitable price signals being given to customers about future costs, targeted price regulation may be needed to protect consumers in certain specific circumstances, for instance in the transition period towards effective competition. They must be balanced so as not to prevent market opening, create discrimination among EU energy suppliers, reinforce distortions of competition or restrict resale' (p.20).
 22. Or market-based prices resulting from an auction (see note 21).
 23. ERGEG, 2010. *Status Review of End-User Price Regulation as of 1 January 2010*, Ref: E10-CEM-34-03, 8 September, available at: http://www.energy-regulators.eu/portal/page/portal/EER_HOME/EER_PUBLICATIONS/CEER_PAPERS/Customers/Tab1/E10-CEM-34-03_price%20regulation_8-Sept-2010.pdf.
 24. This provision came with a sunset clause expiring in July 2012, which Ofgem is now proposing to extend to July 2014 (see Ofgem, 2012. *Consultation on the Undue Discrimination Prohibition Standard License Condition*, 24 February, available at: http://www.ofgem.gov.uk/Markets/RetMkts/rmr/Documents1/Undue_Discrimination_Consultation.pdf).
 25. Ofgem, 2012. *The Standardised Element of the Standard Tariff under the Retail Market Review*, available at: <http://www.ofgem.gov.uk/Markets/RetMkts/rmr/Documents1/Standardised%20element%20consultation.pdf>. For a dissenting view, see Littlechild, S., 2012. *Ofgem's Procrustean Bed: A Response to Ofgem's Consultation on its Retail Market Domestic proposals*, available at: <http://www.eprg.group.cam.ac.uk/wp-content/uploads/2012/01/Ofgems-Procrustean-Bed-23-Jan-2012.pdf>.
 26. Ofgem, 2012 (see n. 25). For a dissenting view, see Littlechild, 2012 (see n. 25).
 27. After making up for any cost advantage possibly enjoyed by the last resort supplier over the competitive suppliers because of the former's special legal status.