

Tantalus and Other Myths of the British Energy Market



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Energy Market Insights

From the Editor

Tantalus was made to stand in a pool of water beneath a fruit tree with low branches, with the fruit ever eluding his grasp, and the water always receding before he could take a drink. His myth gives us the word “tantalizing.” Like Tantalus, British regulators seem to feel that properly functioning energy markets are just out of reach. Unlike Tantalus, however, they think they can do something about it. Tantalizing though that prospect might be, proposed actions fall prey to a number of other myths, stretching from the myth that “prices rise like rockets and fall like feathers” to the myth that “regulators know best”. If well-meaning but poorly-grounded interventions simply undermine the competitive process, regulators will see the waters recede still further and consumers will suffer.

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Overview

The “Big Six” energy firms currently face the prospect of political and regulatory intervention that is unprecedented in the more than 15 years since Britain’s 27 million households have been free to choose their gas and electricity supplier. In his September 2013 party conference speech, Ed Miliband pledged to “reset the broken energy market” with a two-year price freeze from 2015. As recently as February 2014, Energy Minister Ed Davey wrote to Ofgem and the Competition and Markets Authority to attack profit margins in the gas retail businesses of the “Big Six”, suggesting radical measures, such as “a break-up of any companies found to have monopoly power to the detriment of the consumer”.¹

Since the Energy Supply Probe in 2007-2008, regulatory pressure has been increasing on the sector, prompting DECC and Ofgem repeatedly to intervene to “fix” the market. A key plank of the government and regulatory thinking that lies behind these interventions is that the “Big Six” vertically-integrated suppliers control the market and frustrate competition. Another is that only an increasingly complex and prescriptive set of rules and regulations surrounding their conduct can ensure fair outcomes for consumers.

In practice, the case that the market is broken and needs fixing is based on scant evidence and a series of poorly justified arguments—one might even call them myths—that pervade the public debate on the energy market. Ahead of the imminent release of the tripartite Competition Assessment, this article reviews some of the evidence on the extent of competition in the market, focusing on those aspects that have attracted greatest public attention.² At its heart, competition is a process, rather than a particular market outcome. Constraints on competitive behaviour (“conduct remedies”) are alien to that process, and have a poor track record in the British energy markets. That record cautions that regulators should avoid using short-term and limited evidence to justify interventions with far-reaching consequences for competition.

Myth I: Lack of Competition Has Led to High Prices and Excess Profits

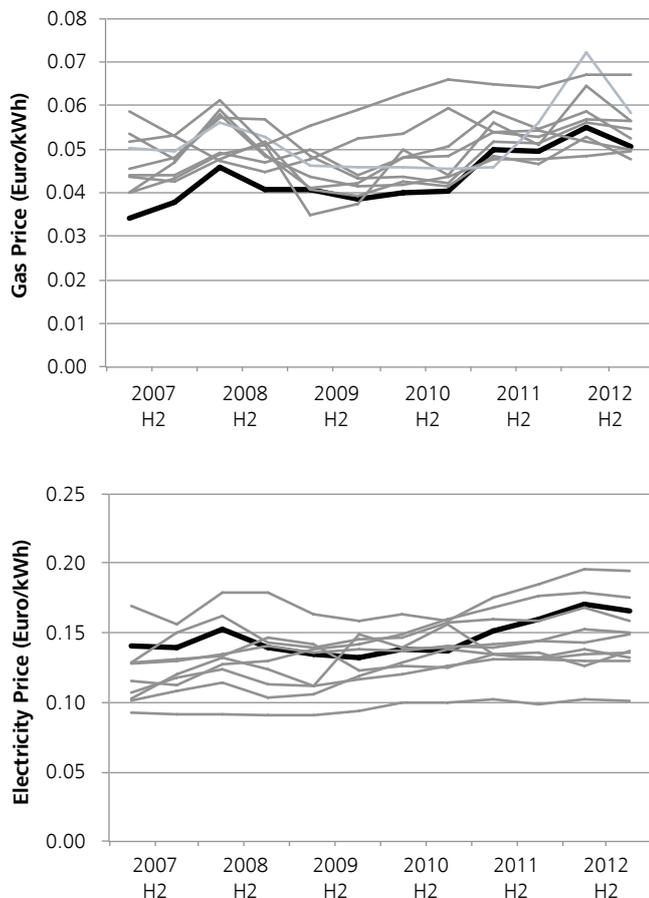
Myth 1a: Prices are high

In his conference speech, Mr Miliband asked the question “what happens when competition fails? [...] The government has to act”.³ One symptom of failed competition he cited was “gas and electricity companies that put prices up and up and up”. Similar statements are now accepted as a truism by politicians, but the evidence put forward is sketchy at best.



Although energy prices have increased significantly in the last several years, no conclusions can be drawn about the implications for competition without also looking at the evolution of costs. Competition does not ensure that prices stay low, it only assures that prices do not rise for the wrong reasons. A simple comparison of energy prices (excluding taxes and levies) faced by residential consumers in Great Britain and those in other European markets (Figure 1)⁴ shows that prices have been rising across Europe, thus indicating that wider cost pressures may be playing a role. These comparisons also indicate that Great Britain had low gas prices and electricity prices that are close to average between 2007 and 2013, but it is unclear what these rankings imply about the state of competition:

Figure 1. **Prices for Domestic Customers in European Markets**



Source: Eurostat, domestic energy prices exclusive of taxes and levies.

- Wholesale gas is traded in a regional commodity market, with the wholesale price of gas in Great Britain (traded at the National Balancing Point) closely tracking the price at trading hubs elsewhere in Europe (such as the Dutch TTF or German NCG). Suppliers across European gas markets therefore face similar cost conditions, and hence the low prices in Great Britain may imply that competition in the gas market in Great Britain is relatively robust;
- By contrast, transmission constraints across borders mean that wholesale electricity supply is segmented into different national markets with wide variation in wholesale prices. As such, a comparison of retail electricity prices in different countries is difficult to interpret, without acknowledging the differences in supply and demand conditions across borders.

Myth 1b: Prices are quick to rise and slow to fall

The suspicion that prices were too high fed accusations that energy companies put prices up unreasonably, or unreasonably quickly. In March 2011, Ofgem published a paper investigating the possibility that energy companies were quick to raise prices when costs went up, but slow to drop them when costs went down. The so-called “rockets and feathers” story has been repeated by politicians and in the media, and has become a “stylised fact” in the energy debate with totemic status.⁵ In fact, the published evidence on asymmetric price responses in the British gas and electricity retail market is far from conclusive, and its implications for competition even less so.

As NERA reported shortly after Ofgem’s paper was first published, Ofgem’s analysis suffered from a number of empirical flaws.⁶ For instance, Ofgem’s analysis was not based on real decisions actually taken by the firms in the market, but on the hypothetical prices that certain types of customers *could have paid*, in response to wholesale costs that firms *could have faced*.⁷

Moreover, Ofgem’s statistical methodology was not reliable. Its analysis examined the impact of changes in a measure of wholesale costs and “other costs” on bills, but ignored the impact of any other variables, such as the consumption level on costs per customer, and therefore on bills. For example, costs per customer may be affected by the level of demand and demand may be correlated with other cost variables. In such circumstances, Ofgem’s statistical analysis may have been biased because the effects on retail prices it attributes to cost shocks may in fact be due to changes in demand. Although it is standard econometric practice to test multiple specifications, Ofgem published no sensitivity analysis showing whether other variables may have an impact on customer bills.

In any case, asymmetric price adjustment neither proves nor disproves that there is a competition problem. Asymmetric price adjustment is found in a wide range of industries, including industries widely believed to be competitive. In a famous study in the field, Pelzman (2000) studied prices in hundreds of markets in the United States between 1978 and 1996.⁸ He found evidence of asymmetric price adjustments in around two-thirds of the markets he studied. Other academics have published similar findings.⁹

In fact, asymmetric price adjustment in response to changes in wholesale costs can be a rational and efficient response by competing suppliers. For example the combination of “menu costs” (the cost of changing prices) with general inflation may cause asymmetric price adjustment even in competitive markets. If costs are rising generally over time along a trend, a firm that reduces prices today in response to a general downward cost shock may have to raise price in the future when its costs increase again. As a result, the firm which adjusts its price downward may incur menu costs twice. However, a firm that raises price today in response to an upward cost shock may be able to hold its price steady in future periods as its costs revert to trend, thus incurring menu costs only once. Hence, firms with underlying costs that follow a trend may have a higher incentive to increase prices in response to an upward cost shock than decrease prices in response to a downward cost shock, even in competitive markets.¹⁰ The academic literature offers a number of other explanations of asymmetric price adjustment consistent with firms’ incentives in competitive markets.¹¹

Although rarely quoted, by Ofgem or the media, Ofgem did acknowledge even at the time of its original investigation that, “[b]ecause of the number of plausible reasons for finding asymmetry, the implication for consumer harm is not clear cut.”¹²

Myth 1c: The “Big Six” are making excess profits

Media reporting of the profit margins the “Big Six” make selling gas and electricity to households has had an undue influence on the debate over the state of competition in the British energy retail market in recent years. In an industry where costs are subject to the volatility of international fuel prices, investment cycles, and weather-dependent demand, conclusions about the fairness of margins can only be drawn by examining the evidence over the medium to long term.

In practice, margins in the energy retail businesses of the “Big Six” have been low over the medium term by comparison with Ofgem’s own benchmark for energy retail margins. From 2005 to 2010, Ofgem states that the “Big Six” earned an average margin of 1.6% on energy sales to domestic customers.¹³ More recent evidence suggests that margins have stayed low over the medium term. Ofgem first mandated the publishing of segmental accounts following the Energy Supply Probe in 2008. From 2009-2012, the years for which segmental accounts are available, the “Big Six” as a whole made a pre-tax average margin of 2.7%, as shown in Table 1.

Table 1. **Profit Margin of the ‘Big Six’ on Energy Sales to Domestic Customers**

Company	2009	2010	2011	2012	Average
Centrica	7.6%	8.9%	6.9%	6.6%	7.5%
EDF	-7.5%	-3.9%	-4.8%	-3.0%	-4.8%
E.ON	-2.6%	0.5%	2.0%	2.3%	0.5%
Npower	-6.9%	-4.7%	-1.8%	3.6%	-2.4%
SSE	2.3%	6.0%	5.8%	6.4%	5.1%
Scottish Power	1.7%	-0.2%	-0.4%	4.5%	1.4%
Industry	0.9%	3.1%	2.8%	4.3%	2.7%

Source: Company segmental accounts, reported to Ofgem. Margins are EBIT / Revenue.

As part of the Retail Market Review, Ofgem developed a benchmark for the margins required by an energy supplier. Ofgem estimated a 3% profit margin would be necessary for a “fully internally hedged [vertically-integrated] utility”.¹⁴ For reasons that are not obvious, Ofgem also estimated independent suppliers would require significantly higher margins of up to 9%. In either case, the average margins actually earned in the industry over the period from 2005 to 2012 have been below these benchmark levels.¹⁵

In response to the lack of evidence of high profits, some commentators have taken to levelling the charge that the “Big Six” hide profits in other segments of their businesses.¹⁶ Whilst that might be possible in principle, it is worth noting that the segmental accounts are prepared in accordance with standards set out by Ofgem and the accountants BDO. The margins in the table above represent the profitability of the supply business according to Ofgem’s own standards.



In any case, the focus on *margins*, calculated as EBIT over total sales, is not helpful, because it distracts attention from more economically-meaningful metrics. Profits represent returns to the equity capital invested in a business and must remunerate the risk-adjusted cost of capital on average to ensure financability. As a result, the appropriate standard for assessing profitability is Return on Capital Employed or ROCE, as Ofgem has recognised at least for the generation segment.¹⁷

Myth II: A Concentrated Market Prevents New Entry and Impedes Effective Competition

Myth IIa: The “Big Six” have a stranglehold on the market

Ofgem and leading regulators routinely quote the market share of the “Big Six” energy suppliers as if they were one player, or a cartel acting in concert.¹⁸ In fact, the “Big Six” are separate, competing companies, for whom the evidence of an individually dominant position, let alone a stranglehold, is very limited.

Competition authorities use market definition and resulting market shares to assess “dominance”, the legal equivalent of the economic concept of market power. The conventional approach to market definition in the British electricity market is to define a national market.¹⁹ Based on their market shares, none of the “Big Six” is individually dominant compared with the usual 50% threshold²⁰, and no pair of companies could be collectively dominant were they to collaborate in either the electricity generation or supply markets. Even if the market were defined regionally, the market shares for the incumbent suppliers would be well below the 50% threshold in most regions.²¹ In gas retail, British Gas is by far the largest player, but even its market share falls short of the 50% threshold.

Competition authorities also use a measure of market concentration called the Hirschman-Herfindahl Index (HHI).²² Based on the 2012 market shares, the HHIs in the British energy market are: 1,483 for electricity generation, 1,720 for electricity sold to domestic customers and 2,373 for gas sold to domestic customers. The HHI for both segments of the electricity market is below the threshold of 2,000 for a “highly concentrated” market used by European authorities.²³ All are below the 2,500 threshold used in the United States by the Department of Justice and Federal Trade Commission to assess “highly concentrated” markets.²⁴

Table 2. Market Share of the “Big Six” (2012)

Company	Electricity Generation %	Electricity Supply %	Gas Supply %
British Gas/Centrica	7%	25%	40%
E.ON	10%	18%	13%
EDF	25%	17%	9%
Others	26%	2%	2%
RWE Npower	15%	13%	12%
Scottish Power	6%	12%	10%
SSE	11%	14%	15%

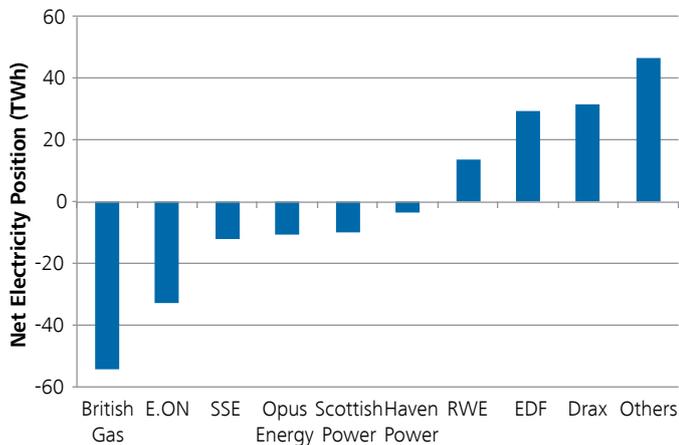
Source: Ofgem (2013), National Reports to the European Commission, pages 50-60.

Myth IIb: Illiquid wholesale markets block new entry

Independent suppliers in Britain do not have to rely on the “Big Six” to procure energy. In the upstream gas market, there are 222 licensed shippers, of which only four have a market share above 5% (and none greater than 10%), which implies that any potential entrant in the downstream retail market would be able to source gas from a range of different and competing suppliers.²⁵ The upstream electricity market is more concentrated, but still has seven firms with market shares greater than or equal to 5%.

Much of the criticism of the “Big Six” in relation to the wholesale market implies that the market is a closed shop and that the vertically-integrated players transfer electricity within their businesses and do not deal with the wider market. Figure 3 shows the net electricity position of all of the major supply and generation companies in Great Britain. As can be seen from the figure, four of the “Big Six” (British Gas, E.ON, SSE and Scottish Power) are short in electricity generation and need to buy electricity from other generators. British Gas, in particular, obtained over 70% of its power from other generators in 2013, whilst EDF sold almost 40% of the power it generated to other suppliers. In addition to the imbalances shown in Figure 3, the “Big Six” also have to purchase generation in order to meet the *profile* of their customers’ consumption, in addition to the *quantity*. Not all of the “Big Six” can effectively meet their required profile of demand and others may find it economic to purchase shape from the market. Accordingly, the “Big Six” have a commercial interest in a liquid wholesale market where they can trade power cost-effectively.

Figure 3. **Net Generation Positions of Major Energy Players in Great Britain (2012)**



Source: Data for 2012 from Ofgem Report to the European Commission; DUKES Table 5.2. A 361 GWh discrepancy between generation and sales is a statistical discrepancy disclosed in DUKES.

However, even if the “Big Six” generators supplied all of their output exclusively to their affiliated retail businesses – something they do not do in practice – that would still leave the 26% of British generation output produced by independent generators available for sale on the market (see Table 2).²⁶

The total electricity generated in the United Kingdom in 2012 (exclusive of transmission losses and own use) was 317TWh, implying that independent generators accounted for 82TWh of electrical output.²⁷ There is therefore no reason why small independent suppliers, who now account for less than 3-4 per cent of the domestic retail market (approximately 4TWh), cannot get fair access to the range of products required to support expansion.^{28, 29}

Rather than being a tactic to block entry, vertical integration may be an efficient means of organising to manage risks and other aspects of energy supply. Suppliers face fluctuating demands for their electricity, which depend on unpredictable factors, such as the weather. Generators provide an asset base and credit-worthiness that enable suppliers to reduce their costs of obtaining credit. Similarly, supply businesses can act as a natural hedge for generating companies wanting to secure an outlet for their power.³⁰ In its Retail Market Review, Ofgem argued that independent suppliers require an additional margin on their cost base of up to 6% above the margins for fully internally hedged vertically-integrated utilities to cover the additional credit costs they would face.³¹ With effective competition, any efficiency gains from vertical integration flow through to end-users.

Myth III: “Something Must Be Done”

Myth IIIa: Regulators know best

The recent history of the energy retail market provides a clear indication of how regulatory intervention can prove to be antithetical to competition. In September 2009 Ofgem imposed a non-discrimination requirement on energy suppliers, which until that time had used discounted pricing in regions where they were not former incumbents (“out of area”), to induce consumers to switch and build market share. The arguments used to support this at the time were that vulnerable customers—those with limited income, information, and opportunities to change supplier—were more likely to remain with their original energy supplier (the former regional incumbent).³²

Economic theory suggests, when firms are no longer allowed to price discriminate and must set the same price in all markets, they will retrench to their most profitable markets. ³³ If several firms retrench to the same market, then intense competition is likely to ensue, and prices both “in area” and “out of area” may fall as a result. If former monopolies retrench to their “in-area” market, however, then they are likely to face little competitive pressure to lower prices, and prices “out of area” will likely rise to “in area” levels.³⁴

The latter was the case following Ofgem’s intervention. From September 2009 to January 2011, the difference between a supplier’s “in area” and “out of area” tariff fell from £30 to £13.³⁵ But rising margins and falling switching rates over this period indicate that suppliers have largely retrenched to their most profitable markets in which they are former incumbents. As Stephen Littlechild, the former Director General of Electricity Supply, put it before Parliament, “the policy failed: instead of lowering in-area prices, suppliers responded to the condition by increasing out-of-area prices”.³⁶

Before implementation of this policy, the British energy retail market was characterised by large numbers of customers switching annually to seek the best deal (greatly in excess of rates seen in the markets of European peers). In 2008, switching rates reached their highest ever levels: 19% of domestic gas customers changed supplier, and 20% of electricity customers did the same.³⁷ By 2012, this had fallen to 11% and 12%, respectively.³⁸ The non-discrimination clause dampened competition between the “Big Six” to gain market share from each other, and consumers appear to have responded to higher, more uniform prices by switching less. Ofgem did not renew the measure on expiry of its “sunset clause” in 2012, perhaps for this very reason.



Nonetheless, switching between energy providers is much more common than in other comparable sectors. Ofcom, the telecoms regulator, carried out a survey in 2012 to examine household switching behaviour.³⁹ It found that 5% of households had switched their landline or mobile phone provider in the last 12 months, 4% had switched their broadband provider, and only 2% had switched their TV provider.⁴⁰ Comprehensive information is harder to come by in other sectors, but one third-party estimate suggests that only 10% of British customers have changed insurance provider in the last five years.⁴¹

Of course, switching in itself is irrelevant for assessing competition in a market. In a perfectly competitive market, switching would not make sense as all firms offer competitive prices and even small switching cost would ensure that no switching is observed. High switching in turn may be in line with a lack of competition in a market and may even be observed if switching costs are high.⁴² In principle, customers can switch for competitive reasons, such as the existence of competing suppliers seeking out customers, or for reasons that may indicate a lack of competition, such as dissatisfaction with customer service standards. The implication for competition between firms in markets with switching costs is that measures to restrict conduct are not the answer to competitive problems. Policymakers should instead target interventions at fostering the development of effective competition as the best way to further consumers' interests.

Myth IIIb: And finally...regulators know best

The two most recently proposed interventions in the energy retail market—the Miliband “price freeze” and Ofgem’s proposal to reform tariff complexity—are both likely to produce unintended consequences as the non-discrimination licence condition did.

The rational response to the proposed 20-month price freeze, to take effect from May 2015 if Labour is elected, is obvious. If companies cannot adjust their prices to reflect changing market conditions, their risk exposure and financing costs will rise—some smaller suppliers may not survive. Consumers will lose out from the higher prices required to cover the additional risk exposure and financing costs, and may lose out again if companies cannot lower their prices in response to falling costs during the 20-month period.

The second proposal may appear more sensible. Wading through multiple different tariffs trying to find the best deal imposes a cost on consumers, in terms of time. With more transparent pricing, consumers will easily be able to find the best deal, requiring the “Big Six” to compete more aggressively for their business, or so the argument goes.

However, greater transparency can benefit sellers as well as buyers. As NERA has previously argued, letting sellers see more clearly what their competitors are charging can discourage competition and may increase profits, as has happened in similar cases.⁴³ In 1993, the Danish competition authority decided to gather and publish data on prices for ready-mix concrete, to improve price transparency for buyers, and thereby increase competition. In the year following initial publication, prices in the market rose by 15%-20%. The Danish economists who studied the market argued that, “the Danish Competition Council, by providing reliable price reporting services, has unwittingly assisted firms in reducing the intensity of competition, and thereby allowed them to increase prices”.⁴⁴

Moreover, as was the case with “out of area” price discrimination, removing a retailer’s ability to offer different tariffs is merely another means of placing a constraint on their ability to compete. The “Big Six” may withdraw all but their highest-priced tariffs, since they are effectively protected from “price attacks” by rivals that can no longer undercut their prices on a discriminatory basis.⁴⁵

Conclusion

In Britain, the process of introducing competition into energy markets has progressed further than in many other European countries. In the late 1980s and early 1990s, privatisation and liberalisation of the energy sector aimed to take politicians and political decision-making out of the energy sector and replace them with a competitive market. Since then, successive governments have sought to reposition politicians and civil servants back at the heart of decision-making in the sector, on the basis that the competitive process is failing to deliver what the government sees as the right outcome.

The market evidence we have reviewed does not bear out the accusations that the competitive process is failing. Still less does the evidence affirm that regulatory intervention to control companies' *conduct* improves market outcomes for consumers. That has not stopped recent proposals such as directly regulating the prices households pay and constraining the ability of the "Big Six" to effectively compete with each other by limiting the tariffs they can charge. In practice, such remedies are fundamentally alien to the competitive process and undermine the efficiency benefits it offers.

To date, Ofgem has restricted its interventions in the British energy market to conduct remedies which regulate the behaviour of the principal players. The spectre of structural remedies, including breaking up the "Big Six", called for by some commentators, looms large.⁴⁶ Given the very real costs that further regulatory intervention in the sector may bring, the burden of proof for any further intervention needs to be high. On current evidence, the case for further intervention is far from proven.

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EndNotes

- ¹ Ed Davey's letter to energy regulators in full (10 February 2014), *Daily Telegraph*.
- ² At the time of writing, Ofgem, the OFT and CMA are conducting a review of competition in the British electricity and gas markets known as the "State of the Market" report, which is due to be published by the end of March 2014. Ofgem (2013), *State of the market report - Assessment framework*, 19/12/2013.
- ³ Ed Milliband's speech to the Labour conference: full text (24 September 2013), *New Statesman*.
- ⁴ Prices are shown for Belgium, Denmark, France, Germany, Ireland, Italy, Netherlands, Norway, Spain and Sweden.
- ⁵ See for example the following three stories in the last three years reporting on or quoting the "rockets and feathers" idea: *Telegraph*, "Ofgem turns up the heat on energy firms that have left customers cold", 14 October 2011, *The Times*, Milliband pledge to target wealthy, 30 September 2012. *Guardian*, "Energy price freeze: the lights are coming on", 26 September 2013.
- ⁶ NERA (2011), *Asymmetrical Price Response in Energy Supply: A Review of Ofgem's Analysis*, 13 May 2011.
- ⁷ Ofgem's analysis was based on the movements in a measure of average customer bills for customers on standard tariffs for a representative consumption level. Ofgem's work took no account of discounts offered to standard tariffs, renewal prices for fixed price contracts or how customer bills were affected by changes in consumption levels. Moreover, Ofgem estimated wholesale costs based on four simple hedging strategies, which may or may not have reflected the costs of firms, and other costs based on an industry average.
- ⁸ Pelzman, S. (2000), Prices Rise Faster Than They Fall, *Journal of Political Economy*, 108, pages 466-502.
- ⁹ Meyer and von Cramon-Taubadel review several other papers and find 205 other cases, in 48% of which the authors reject the hypothesis that price adjustment is symmetric (i.e. imply that prices move asymmetrically). Of those 205 cases, 31 use a model with an error correction mechanism (like Ofgem's), and in 45% of those cases the authors reject symmetry (i.e., imply asymmetry). See Meyer and von Cramon-Taubadel (2004), page 589.
- ¹⁰ A formal description of this model is available in: Ball L., and Mankiw, N.G., (1994), Asymmetric Price Adjustment and Economic Fluctuations, *The Economic Journal*, 104 (March), pages 247-261
- ¹¹ Two examples are consumers' asymmetric search behaviour in response to price changes and "Edgeworth Cycles". If consumers only search for alternative offers when prices increase, suppliers may increase prices rapidly when rising costs trigger a price rise but suppliers may not reduce prices when costs fall again. "Edgeworth Cycles" describe the gradual and repeated undercutting of one another by firms over time during price wars, until firms relent to raise prices and begin the process again. The implication of Edgeworth cycles is that upward price adjustment may be very quick (in response to cost shocks or otherwise) but downward price adjustment happens only slowly. For further details see: Matthew Lewis (2004), Asymmetric Price Adjustment and Consumer Search: An Examination of the Retail Gasoline Market, Working Paper, 1 September 2004, page 13; Noel (2009), Do retail gasoline prices respond asymmetrically to cost shocks? The influence of Edgeworth Cycles, *RAND Journal of Economics*, 40, page 583.
- ¹² Ofgem (2011), paragraphs 3.12 and 3.13.
- ¹³ Ofgem (2011), *The Retail Market Review - Findings and initial proposals*, Supplementary appendices, ref: 34/11, 21 March 2011, page 40.
- ¹⁴ Ofgem (2011), op. cit., page 43.
- ¹⁵ The margins earned over the period shown in Table 1 vary within the "Big Six", which could prompt concerns about whether individual players make excessive profits, even if the "Big Six" as a whole do not. Differences in margins are consistent with competition between firms. In practice, one would anticipate that some market players would outperform others over any given period, especially over relatively short time periods such as the four year time frame in Table 1. Depending on the exact profile of each of the companies' customers, each may face different risks, and each may have made a different profile of business decisions over the long term, such as historic investments in their brand or cost-cutting, all of which will affect their margins in any given year. In any case, even over this short time period, the margins in the table provide some, limited evidence of convergence. Although Centrica made the largest margins in each of the four years, its margins fell over the period whilst the margins of other



- companies, particularly those making negative margins in the first year, improved. If Ofgem's argument that non-vertically-integrated players require higher margins is to be believed, Centrica would require the highest margin in any case, as it faces the biggest deficit in meeting the electricity consumption of its customers (see Figure 3, below).
- ¹⁶ See for example, the accusations reported in the *Independent*, "Revealed: How 'Big Six' energy firms conceal their profits", 09 November 2013, available at: <http://www.independent.co.uk/news/uk/home-news/revealed-how-big-six-energy-firms-conceal-their-profits-8930039.html>
- ¹⁷ Ofgem Press Release, *Ofgem breaks down barriers so competition can work better for energy consumers*, 26 February 2014.
- ¹⁸ E.g. Ofgem (27 March 2013), *The Retail Market Review – Final domestic proposals*, page 19, para 1.29: "the opening of the energy retail market to competition gave significant market share to six large incumbents, which when combined account for more than 98 per cent of the market" and many other references therein.
- ¹⁹ See for example, the EDF/British Energy merger, COMP/M.5224 - EDF / BRITISH ENERGY [2008], para 22 for wholesale market definition and the Centrica/British Energy merger for wholesale and retail market definition OFT, ME/4133/09, [2009], para 25. In the Centrica/British Energy merger, the OFT left the precise scope of the electricity *retail* market definition open "In terms of the geographic scope of the retailing of electricity, it may be possible that it is regional rather than national (or GB-wide). This is because in England and Wales, the former Public Electricity Supply area providers still account for a large proportion of supply in those areas. The EC considered somewhat similar market conditions in Germany in Vattenfall/Nuon Energy. However, the OFT has found that most of the major suppliers are present in all/most areas of Great Britain, and BETTA [The British Electricity Transmission and Trading Arrangements] also governs how these customers are supplied. As such, the OFT considers it likely that the geographic scope of these supply 'markets' is GB-wide, although it did not consider it necessary to conclude on this issue." On market definition generally, see OECD (2012) Market Definition, Background paper prepared by Ulrich Schwalbe and Frank Maier-Rigaud for the OECD Secretariat.
- ²⁰ See the often-quoted judgement in the AKZO case: ECJ, Case C-62/86 [1991] ECR I-3359, [1993] 5 CMLR 215
- ²¹ See market shares of the incumbent suppliers in: DECC (2013), *Digest of United Kingdom Energy Statistics (DUKES)*, 25 July 2013, Table 5E.
- ²² The HHI for an industry is the sum of the squared market shares of each of the participants. The HHI ranges from nearly 0 (perfect competition) to 10,000 (pure monopoly).
- ²³ *Guidelines on the assessment of horizontal mergers under the Council Regulation on the control of concentrations between undertakings*, Official Journal of the European Union (5 February 2004), (2004/C 31/03). British markets are far less concentrated than those in European peers where comparable information is available. See various national reports to the Council of European Regulators (2013 and passim).
- ²⁴ Department of Justice and Federal Trade Commission (19 August 2010), *Horizontal Merger Guidelines*. The Federal Energy Regulatory Commission maintains a different, and lower, threshold for market concentration.
- ²⁵ Ofgem (2013), *2013 Great Britain and Northern Ireland National Reports to the European Commission*, (July 2013), pages 102.
- ²⁶ Ofgem (2013), *2013 Great Britain and Northern Ireland National Reports to the European Commission*, (July 2013), pages 50.
- ²⁷ ONS, *Digest of UK Energy Statistics (DUKES)*, Table 5.2.
- ²⁸ Ofgem (2013), *2013 Great Britain and Northern Ireland National Reports to the European Commission*, (July 2013), pages 59, 60.
- ²⁹ In principle, despite the existence of generators who are long on electricity, the wholesale market could still be sewn up if all of the electricity sold from the power stations were sold under long term contracts. In practice, the largest generators will all be subject to the "Secure and Promote" licence condition from April, which guarantees market access to power for small suppliers. The "Big Six" are also subject to the Mandatory Market Making Obligation, which requires them to offer power on the market at regulated bid-ask spreads. Ofgem (2014), *Wholesale Power Market Liquidity – Decision Letter*, 23 January 2014.
- ³⁰ Moreover, the current institutional arrangements in the balancing market increase the tendency toward vertical integration. The current balancing mechanism exposes generators and suppliers to a spread for being out of balance. By having a wider portfolio and offsetting risks to generation and supply, vertically-integrated parties can act to limit their exposure to that risk.
- ³¹ Ofgem (2011), *The Retail Market Review – Findings and initial proposals*, Ref: 34/11, 21 March 2011, *Appendix 9 – Trends in Profits and Costs*, Figure 4, p 44.
- ³² Hviid, Morten and Waddams Price, Catherine (2012), *NonDiscrimination Clauses In The Retail Energy Sector*, *The Economic Journal*, 122, pages 237.
- ³³ Corts, Kenneth S. (1998), *Third-degree price discrimination in oligopoly: all-out competition and strategic commitment*, *RAND Journal of Economics*, 29, pages 306-323.
- ³⁴ Hviid and Waddams Price (2012), *op. cit.*, page 248.
- ³⁵ Ofgem (26 October 2012), *Decision on Standard Condition 25A in the Gas and Electricity Supply Licenses*,
- ³⁶ Energy and Climate Change Committee (26 July 2013), *Written evidence submitted by Stephen Littlechild*
- ³⁷ Ofgem (2009), *2009 Great Britain and Northern Ireland National Reports to the European Commission*, pages 30, 54.
- ³⁸ Ofgem (2013), *2013 Great Britain and Northern Ireland National Reports to the European Commission*, pages 63, 112. This still implies that 3.3 million households switched supplier in 2012, 275,000 per month.
- ³⁹ Ofcom (2012), *Ofcom Switching Tracker 2012*.
- ⁴⁰ Ofcom (2012), Tables 22, 68, 105, 142, 171.
- ⁴¹ Ernst and Young (2012), *Global Consumer Insurance Survey 2012*, page 15.
- ⁴² See OFT (2003) *Switching Costs*, Report prepared by NERA available at http://www.of.gov.uk/shared_of/reports/comp_policy/oft655.pdf.
- ⁴³ Shuttleworth, Graham and Anstey, George (2013), *Retail Energy Markets: Government Ignores Economics At Its Peril*, *New Power*, 51, pages 5-9).
- ⁴⁴ Albaek, Svend, Mollgaard, Peter and Overgaard, Per B. (1997), *Government-Assisted Oligopoly Coordination? A Concrete Case*, *Journal of Industrial Economics*, 45, page 430.
- ⁴⁵ Thisse, J.-F. and Vives, X. (1988), *On the Strategic Choice of Spatial Price Policy*, *American Economic Review*, 78, page 134.
- ⁴⁶ *Daily Telegraph*, "Small firms urge break-up of "Big Six" energy giants", 23 March 2014.



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