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Regulation and Competition in the UK Retail Electricity Market

Tooraj Jamasb

Durham University Business School

and

Durham Energy Institute (DEI)

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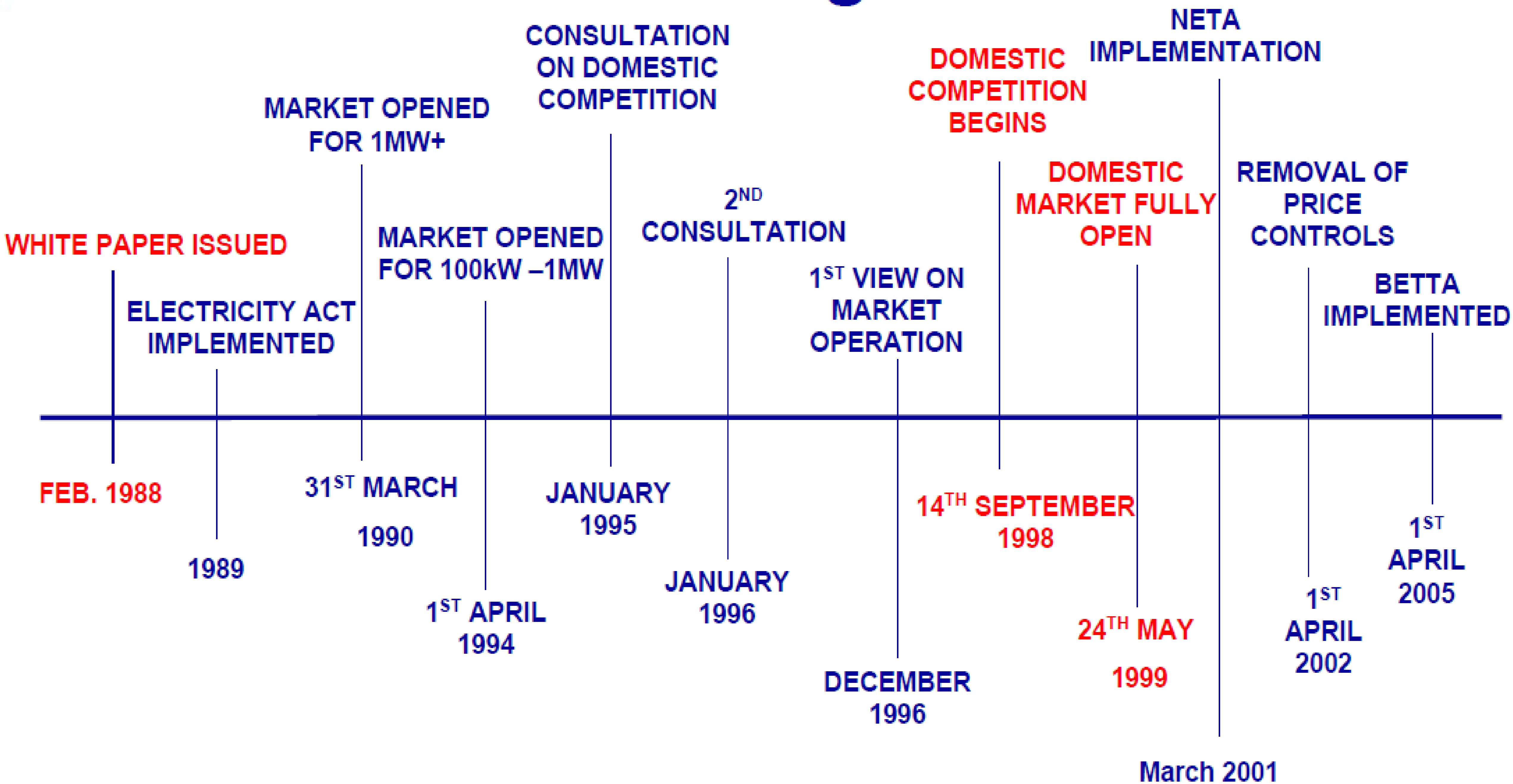
Outline

- From Price Regulation to Competition
- Features of the UK retail market
- Issues in the retail market
- The Ofgem 2011 'Retail Market Review'
- The European retail market
- Conclusions

From Price Regulation to Competition

How did we get here?



Source: With kind permission from Aleck Dadson (2005)

Supply Price Caps RPI-X-Y
Cost Pass Through (April 90 – March 98)

- **The Y-factor**

- **Costs regulated elsewhere**
  - Transmission costs (excl. transmission exit charges)
  - Distribution costs

- **Costs outside of the RECs control**
  - Electricity purchase cost
  - Fossil Fuel levy
  - Administration payments to the pool

Approximately 95% of total supply business costs

1st. Supply Price Restraints: April 1998 - March 2000

- Aimed at managing the transition to a competitive market
- Price restraint rather than previous cost pass through controls
- Applied only to PESs – Domestic and small non-domestic customers
- Second tier suppliers not subject to price restraints

- *RPI-X:*
  - *1998-1999   X varying from 3.2% and 11.8% among firms reflecting expected cost reductions and increases*
  - *1999-2000   X=3 for all*

- *Prices for customers on prepayment meters had to follow those of other customers*
- *£1 energy efficiency allowance per customer*

- *The price restraints essentially an 'overall avg. revenue cap' that included avg. revenue caps on PES standard domestic (calculated at 3,300 KWh), other domestic, and non-domestic tariffs*

Separation of DICOs and Supply

- In 1999, the separate regulators for electricity and gas were merged into a single authority "Ofgem"
- Distribution and supply were integrated and governed by a single licence until 2000
- The Utilities Act 2000 imposed legal separation of these
- This triggered sale of some companies
  - By early 2008, five of the UK and Wales DISCOs shared ownership with the incumbent electricity supplier
  - In Scotland two vertically integrated utilities remain

- The Act changed the balance of duties of the regulator from ensuring the functioning of the deregulated sector to protection of consumers interests (where possible by encouraging competition)
- The Utilities Act 2000 also created the independent consumer body the Energywatch

$2^{nd.}$ Supply Price Restraints 2000-2002

- Final proposals (Dec 1999)
- Direct debit market sufficiently competitive
- Price control for ex-PES suppliers, and only for primary domestic tariffs (standard and economy 7)

- In the form of restriction on weighted avg. unit price
- Individual components of charge could not increase faster than RPI
- Limited the increase on charges for in-area customers on prepayment contracts to that of credit customers

  - Factual changes lead to falls in X
  - Generation loss factors added

  - Fixed cost £8.3m, cost per customer £31.30
    - ✓ Based on weighted average of 12 businesses
    - ✓ Fixed cost per customer= (average fixed cost per company) x (share of domestic customers in first tier sub 100KW costs) / (no. of domestic customers less 19%)
    - ✓ Variable cost per customer - similarly calculated and adjusted for data management services revenue, separation costs and working capital

From April 2002 -

- Supply price controls replaced with the use of “powers of investigation and enforcement under competition law”

- Ofgem could bring action for anti-competitive practices such as excessive pricing and discriminatory predatory pricing”

- Ex-PES supplies no longer submitted regulatory accounts

Features of the UK Retail Market

Features of the UK Retail Market (1)

- Competition developed slowly
- Some new entrants failed or were taken over
- Competition (including from new entrants) initially stronger for direct debit customers, and then for standard credit customers
- By early 2002, 40% of households had switched (also 30% of prepayment households)

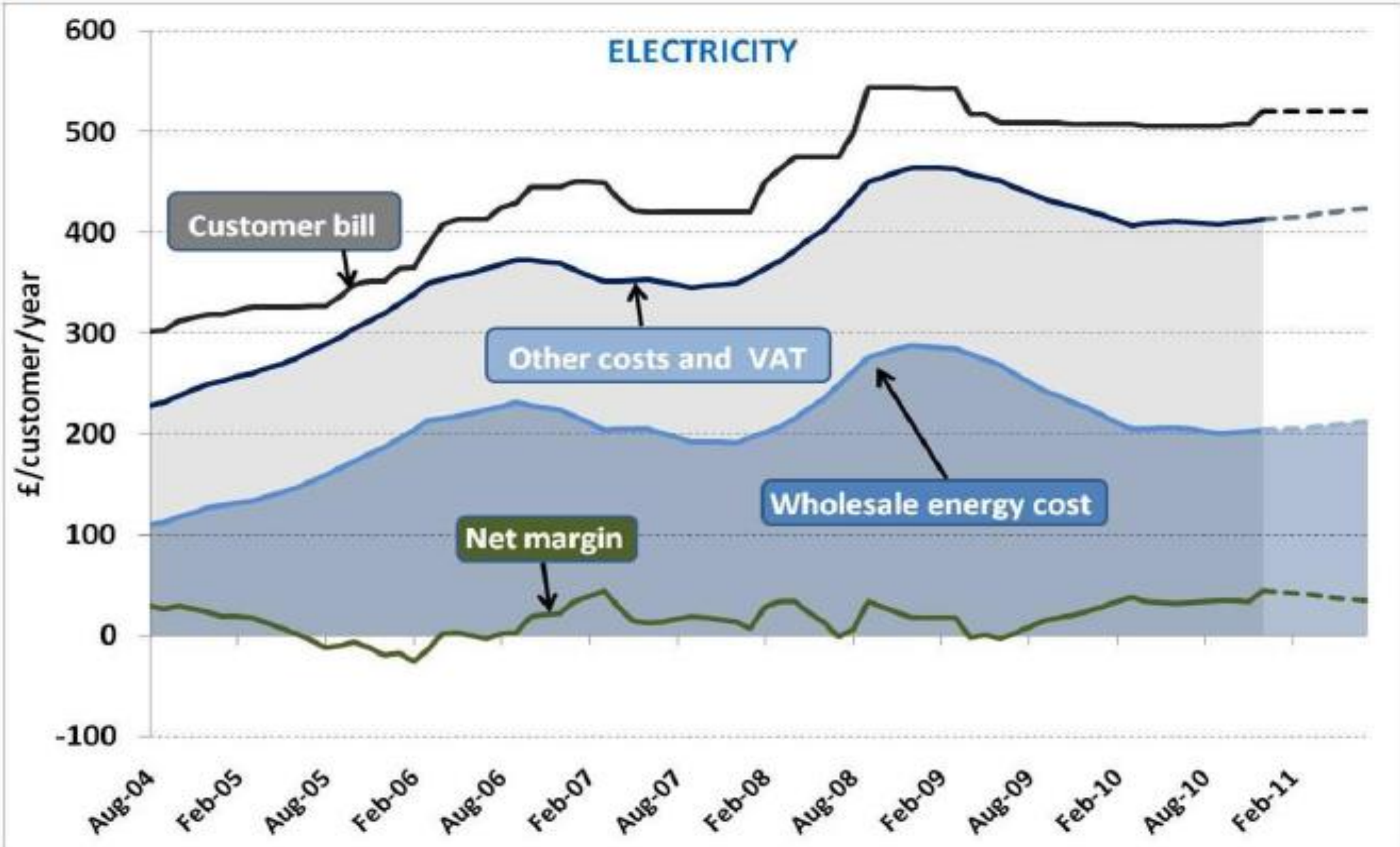
Features of the UK Retail Market (2)

- Consolidated market – The Big 6
- Vertical integration with generators
- 4 out of 6 largest UK electricity suppliers are major European players

Retail Market Assessment Criteria

- **Retail margin** – difficult to establish accurately
- **Switching supplier**
  - Switching costs, rules, time
- **Innovative products**
- **Market structure**
  - Market concentration
  - Also two examples of horizontal integration of gas and electricity distribution networks
  - Vertical integration –
    - of D and S can be used to increase the network charge of new entrants
    - Makes physical hedging against changes in the wholesale market prices possible
- **Transparency**
- **Market entry barriers**

Figure 1.2: Typical electricity customer bill, costs and net margin



Net margin from December increased by £10 from December 2010 to February 2011 to around £45 per customer per year.

Figure 1.1: Typical dual fuel customer bill, costs and net margin

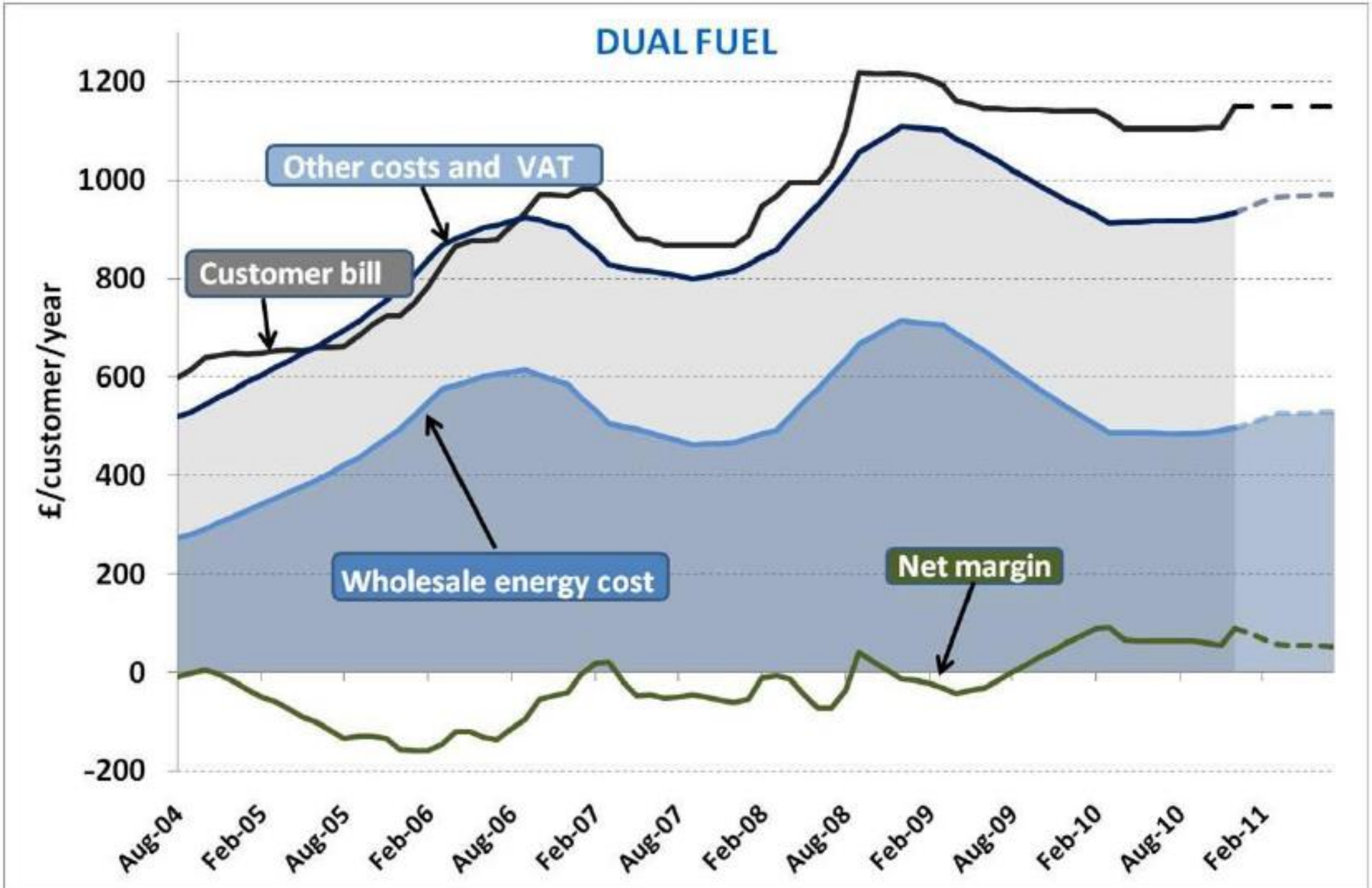
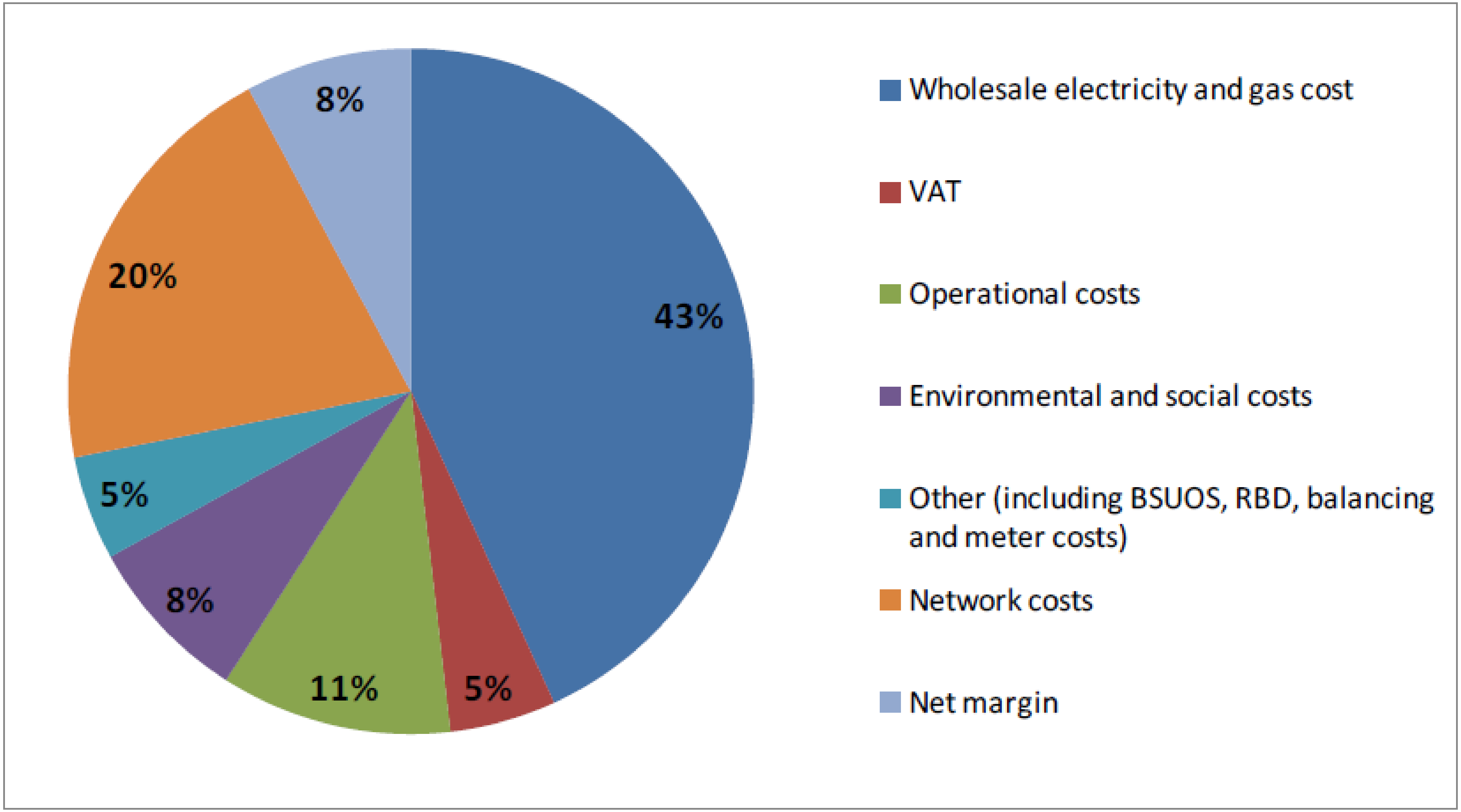


Figure 4.1: Illustrative breakdown of a typical dual fuel customer bill



Breakdown of Retail Cost Components Over Time

Figure 1.6: Electricity summary table (£/customer/year)

	Jun-07	Jun-08	Jun-09	Jun-10	Jun-11
Customer bill	£420	£475	£510	£505	£535
Wholesale costs	£205	£235	£270	£205	£225
VAT and other costs	£150	£170	£180	£205	£210
Gross margin	£70	£70	£60	£95	£100
Operating costs	£55	£60	£65	£65	£65
Implied net margin	£10	£10	-£5	£30	£35
Notes:	*Customer bill is for standard tariffs, weighted by payment method and market share. Average figures assume gas consumption of 16.9MWh/yr. Figures rounded to nearest £5 and may not sum due to rounding*				

Source: Ofgem (2011)

Switching Supplier

- The most watched indicator
- In Sept 2007, in 10 out of 14 areas, more than 50% of direct debit customers had left the incumbent supplier
- Incumbents had retained 50% of prepayment customers

- By March 2008, the average share of incumbent suppliers were between 40 and 54%
- About 50% of residential customer had switched within 10 years of market opening

- Wilson and Waddams Price (2007) found that many customers switched to a sub-optimum or even a worse deal

Source: BERR (2007; 2008), Waddams (2008)

Innovation

- By 2008, one-third of customers were on dual-fuel deals
- Tracker tariffs
- Price capped tariffs
- Discounts for managing accounts online

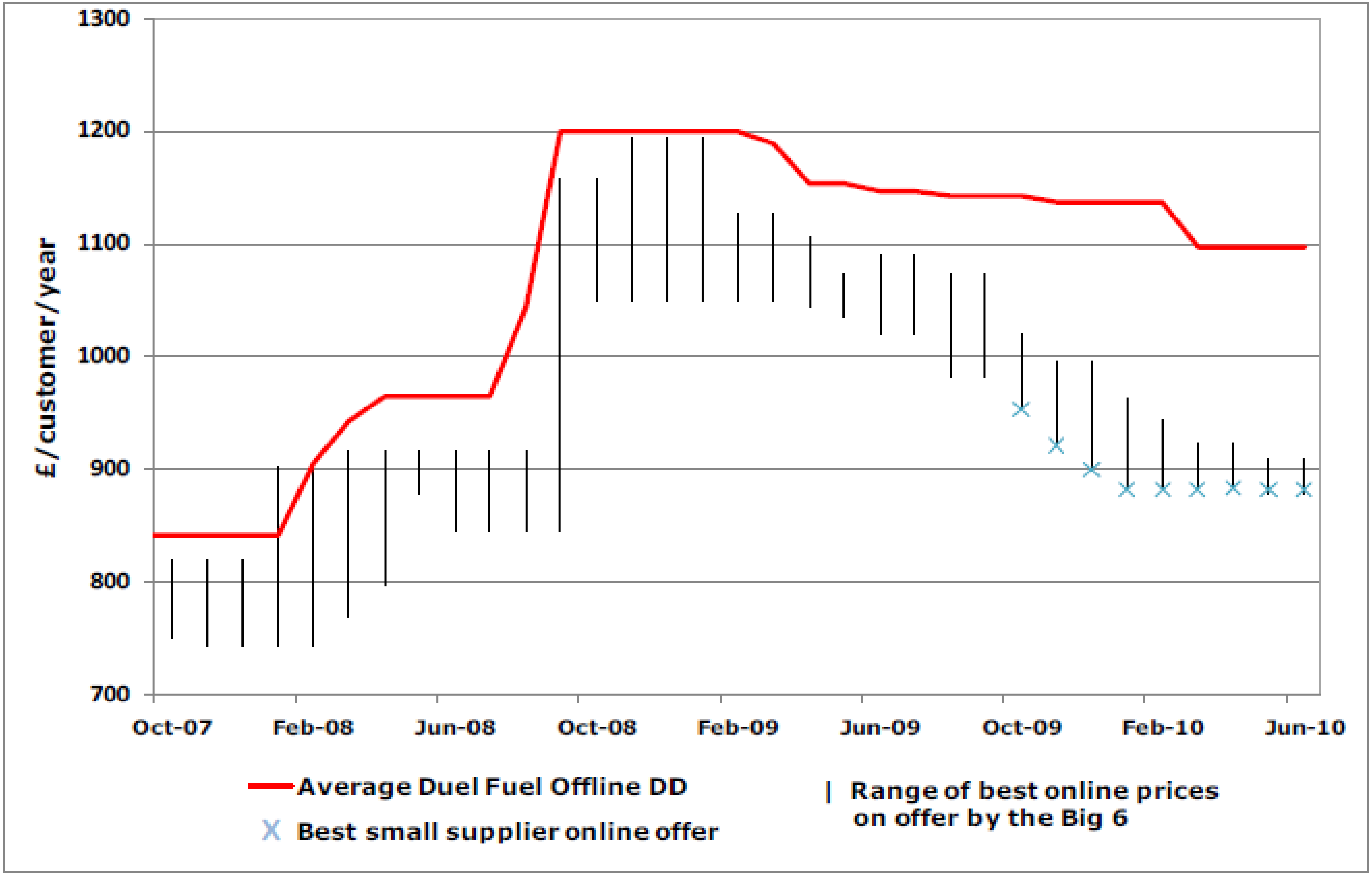
Transparency

"You must not sell a customer a product or service that he or she does not fully understand or that is inappropriate for their needs and circumstances.

You must not offer products that are unnecessarily complex or confusing;

Ofgem open letter on "Standards of conduct for suppliers in the retail market", 19 October 2009

Figure 2.5 National average dual fuel offline bills vs. best offer online bills



Ofgem (2010), Update on Probe Monitoring: Tariff Differentials and Consumer Switching, Ref: 79/10, July 1.

Figure 2.6 Illustrative examples of online tariff transparency strengths and issues

Supplier	Tariff	Strength	Issue
EDF	OnlineS@ver 6	• Online marketing provides clear and accessible information on contract period, exit fees and discounts	• Uncertainty about what happens at the end of the fixed period (could be transferred onto a standard tariff or another tariff which is considered 'appropriate')[1]
EON	Fix Online 8	• Savings referenced on first screen and explained on next • Second screen clearly states duration of fixed period and that the offer is limited and early termination fees apply	• Online marketing unclear what happens at the end of the contract • Terms and conditions difficult to access and unclear what happens at the end of the contract
British Gas	Websaver 8	• Online marketing is clear about discounts, fixed contract period, availability and early termination fees • Terms & Conditions accessible	• Uncertainty about what happens at the end of the fixed period (could be transferred to standard product or to "another product")[2]
Npower	Online 18	• Terms & Conditions state that the tariff the customer will be placed on at the end of the contract may be more expensive than Sign Online 18 • Information about the end of the contract is given in Terms & Conditions	• Online marketing states savings upfront but fuller information about savings need to be more prominent • The link to specific Terms & Conditions could be made more prominent
SSE	Go Direct 3	• End date, early termination fees and what happens at the end of the contract are provided on initial product screen	• The link to specific Terms & Conditions could be made more prominent
ScottishPower	Online Energy Reward	• Fixed period stated upfront • Product notes clearly state discounts • Early termination fees are presented on the initial product screen	• Online marketing and product notes unclear what happens at the end of the contract[3]

Note: [1]The 'appropriate' tariff would always be a discount product. [2]Customers are contacted before being transferred to another tariff in advance of the end of their discount period. [3]Planning to amend for future products.

Source: Ofgem analysis of suppliers' website and correspondence with suppliers

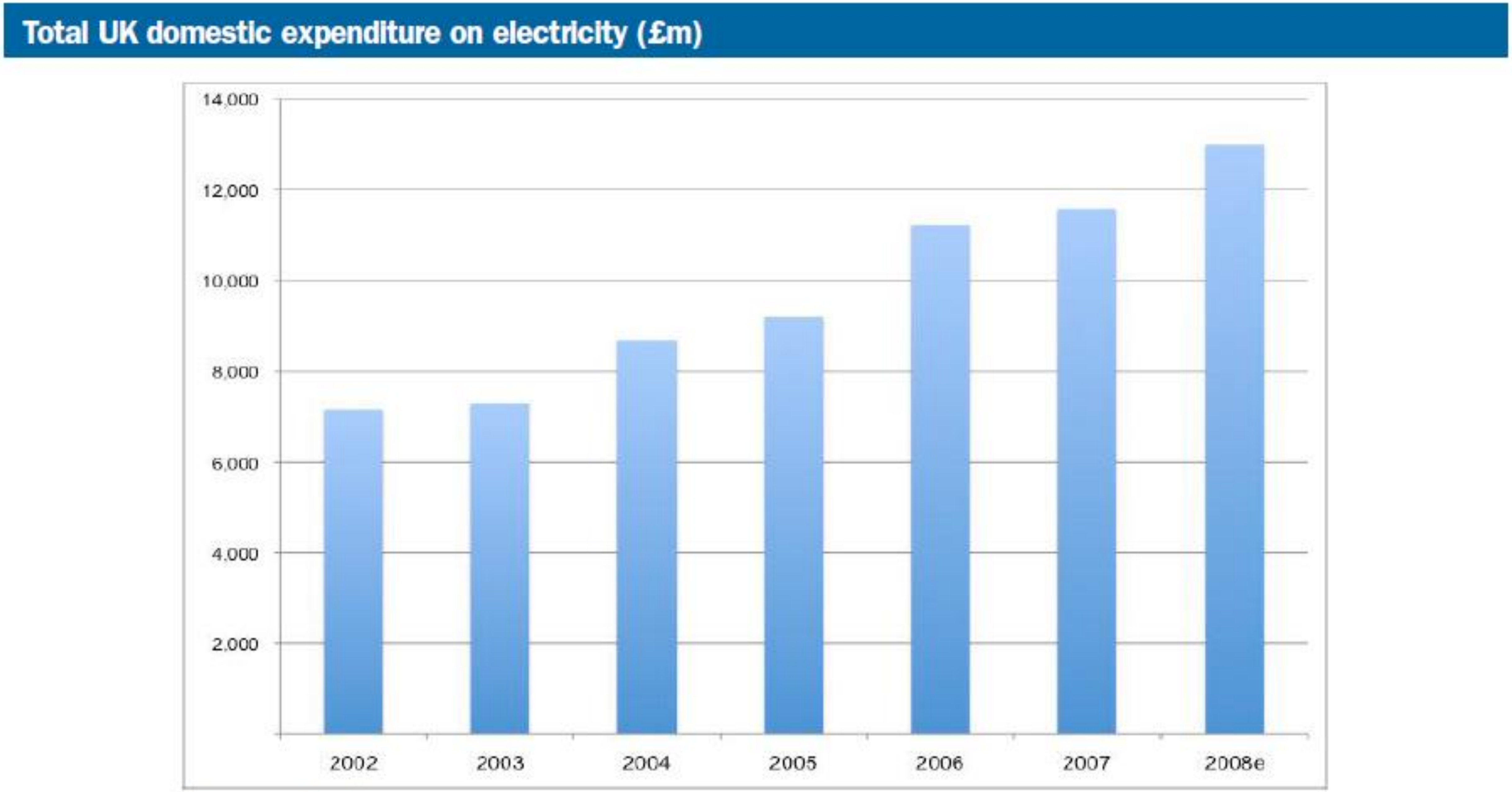
Issues in the Retail Market

UK Electricity Supply Business

Bulk purchase of electricity from generators and sale to final consumers

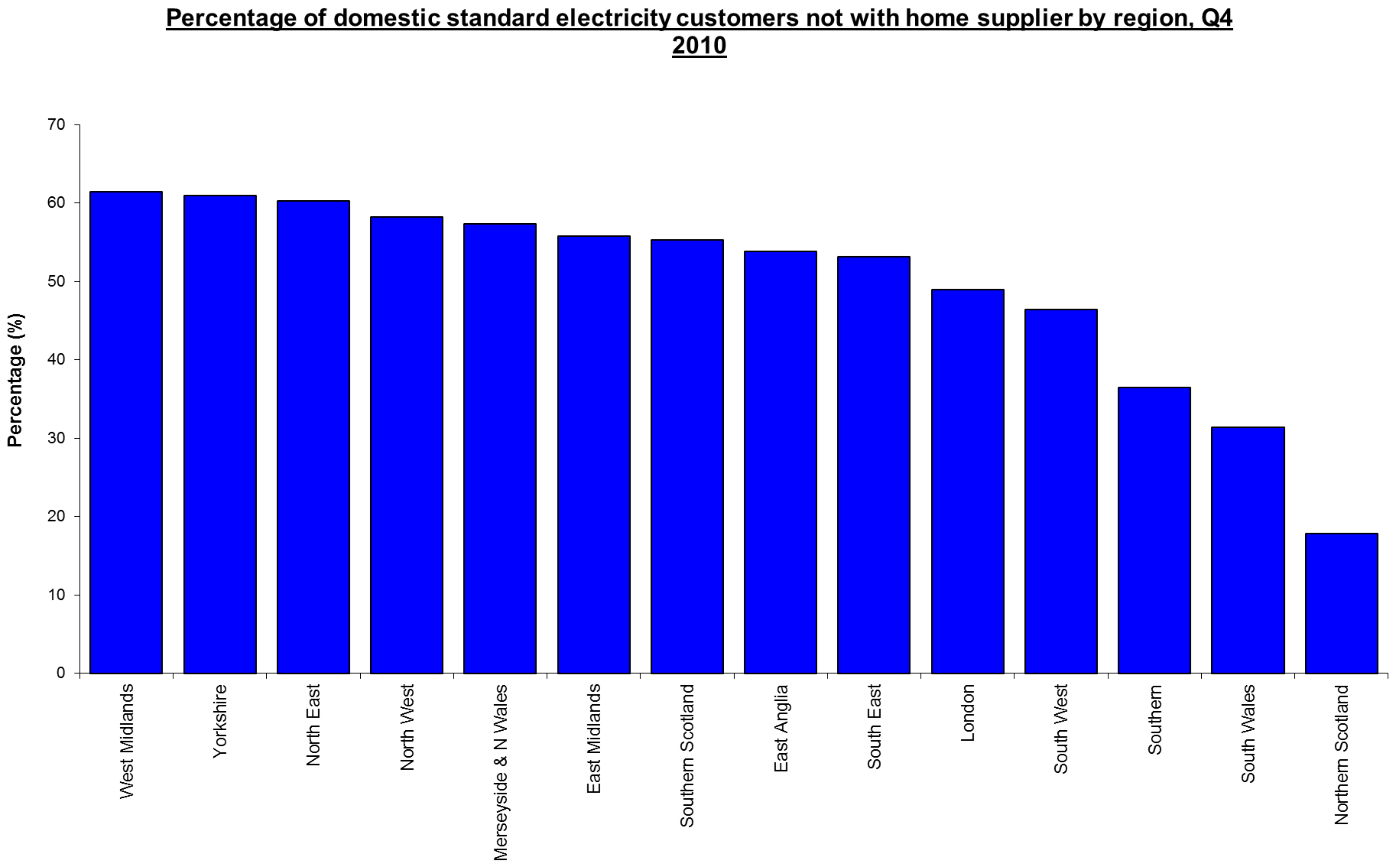
- ❖ Billing and collection
- ❖ Customer service
- ❖ Energy policy and regulatory objectives
  - o Smart meters
  - o ROCs
- ❖ Social environmental obligations

Electricity Expenditure on the Rise



Source : BERR

Difference Across Regions



Source: DECC

UK Fuel Poverty

- 10% incomes threshold
- 4.5 million households
- Each 1% price increase 40,000 new fuel poor households

- Specific groups of vulnerable households
- Regional differences in network charges

- No gas connection can lead to higher electricity price
- Payment method

Ofgem's 2011 Retail Market Review

- "Building on the findings of our 2008 Energy Supply Probe, Ofgem's Retail Market Review has demonstrated that further action is needed to make energy retail markets in Great Britain work more effectively in the interests of consumers. "

- "We would prefer to implement reform wherever appropriate with the cooperation of the supply companies. This would ensure quicker implementation to the benefit of consumers and would limit uncertainty for the industry. If, following consultation, we consider that reforms do not have a realistic chance of addressing the concerns identified due to industry opposition or otherwise, we will consider a referral to the Competition Commission. "

Ofgem's 2011 Retail Market Review

"The initial proposals set out in this document are aimed at making competition work more effectively so that the benefits can be realised by consumers. They are in line with our principal objective, and uphold our EU duties."

Retail Market Review: Initial Proposals

- **Proposal 1:** "To address the complexity of tariff information provided by suppliers we propose to make it simple for domestic consumers to compare prices and choose a better deal."
- **Proposal 2:** "To address continued concerns on low electricity wholesale market liquidity and new entry we propose improving access to wholesale market products for new entrants and independent suppliers and generators."
- **Proposal 3:** Strengthen Probe remedies – domestic. "... we propose to make sure the Probe remedies are strengthened, and where necessary enforced, so that they achieve their original objectives."
- **Proposal 4:** Strengthen Probe remedies – non-domestic. "... we propose to take further action to prevent unfair contracting practices in the non-domestic sector."
- **Proposal 5:** "... we will investigate how to improve reporting requirements for vertically integrated utilities."

Barriers to Entry:
The Industry View?

- Delivering government policy
- Access to wholesale energy supplies
- Low margins

- Complexity and regulatory burden
- Network charges

- Scale economies
- Large number of DNOs and network tariffs more costly for small suppliers

The European Retail Market

Background

- 1 July 2007 - Customers in member countries free to choose their electricity and gas suppliers

- Some countries have had longer experience with liberalisation

- Competition most developed in the UK, Norway, Sweden

- Regulated and un-regulated prices co-exist in some countries
    - Low regulated prices making new entry difficult

Retail Market Monitoring Indicators

I. Rivalry

No. of suppliers, switching rate, renegotiation, duration of consumer switching procedures, price differences within markets, retail margin, changes in suppliers' market shares and the market activity of the players

II. Barriers to Entry

Number of "non-integrated" players

III. Threat of Substitutes

E.g. Gas

IV. Buyer Power

General awareness of the prevailing options among general public and the level of automated meter reading (AMR)

V. Supplier Power

Concentration of the wholesale market – e.g. HHI Index

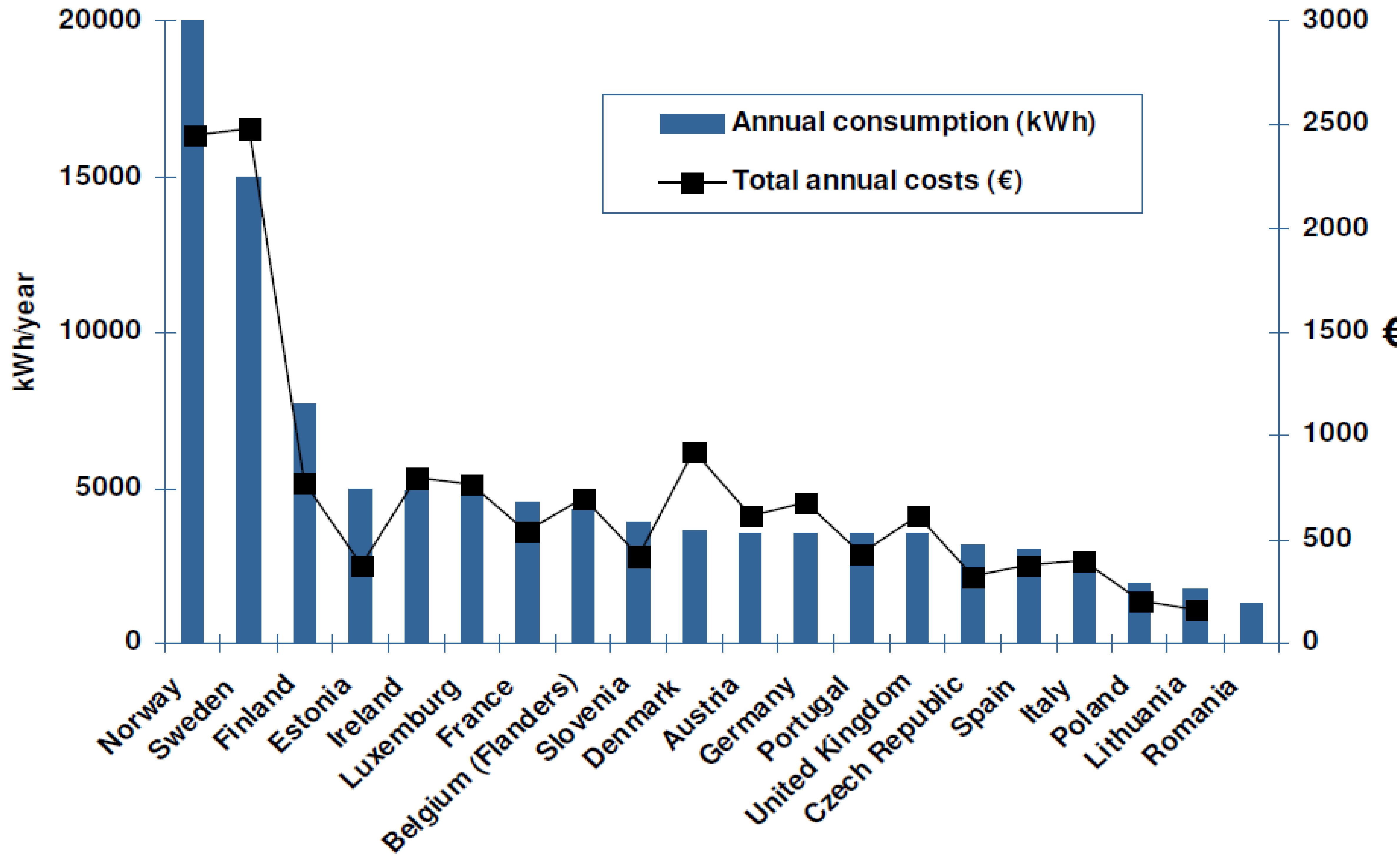
Source: Adapted from NordREG

Stages in Supplier Switching

- Information gathering, e.g.
  - On prices, contracts, suppliers, products
- Supplier switching procedure, e.g.
  - Meter reading
  - Switching date
- Execution of the switch, e.g.
  - Handling of switching delay, cancelation
  - Confirmation of switch

Source: ERGEG

Consumption and Costs in Europe



Source: ERGEG

Market Concentration in Europe: Similar?

Table 1. Retail Market Position in Electricity, 2008.

Electricity	Companies with market share over 5% in whole retail market	Market share of three largest companies in whole retail market	Number of nationwide suppliers
Slovenia	7	58	13
Denmark	7	n/a	16
Poland	6	44	19
Great Britain	6	59*	17
Austria	6	62	10
Norway	5	36	26
Romania	5	48	138
Finland	4	40	25
Hungary	4	81	78
Ireland	4	84	9
Spain	4	85	75
Northern Ireland	4	90	18
Luxembourg	4	94	7
The Netherlands	4	n/a	21
Germany	3	52	17
Italy	3	59	23
Slovak Republic	3	60	176
Bulgaria	3	98	1
Czech Republic	3	99	310
Sweden	3	n/a	104
Portugal	2	100	4
France	1	97	17
Estonia	1	99	3
Greece	1	100	37
Latvia	1	100	2
Lithuania	1	100	2
Cyprus	1	100	1
Belgium	n/a	n/a	12

Source: European Commission Report on Progress in Creating the Internal Gas and Electricity Market (2010) Technical Annex, p16.

* Source: Ofgem (2008) Energy Supply Probe – Initial Findings Report, p32 (domestic market share only).

Source: Frontier Economics (2011)

Some Retail Economics

Some Retail Economics (1)

- Avg. consumption and No. of customers important determinants of retail market size and hence competition
- Low regulated prices can also undermine entry by new actors
- Regulated customers can reduce the size of the competitive market
- Sticky customers loyal or reluctant to switch further reduce the size of the competitive market

Some Retail Economics (2)

- The retails markets have gravitated towards concentration
- Legacy, vertical/horizontal integration, and size lead to market dominance by few actors
- Vertical integration not possible for all actors
- Economies of scale squeezing some actors out
- Fixed costs as barrier to new entry

Some Retail Economics (3)

- ❖ Leading to oligopolistic competition
- ❖ Sticky customers
- ❖ Low price elasticity of demand
  - o Price cutting doesn't produce higher sales
- ❖ Leading to non-price competition
  - o e.g. brand building and non-related products/services

Conclusions and Lessons (1)

- Littlechild was right that there would be more innovation
- Joskow was right that the benefits of competition in supply were uncertain
- Newbery was right that some customers would be reluctant to switch and thus limiting competition in the market.

- As the supply market for large users opens, the market becomes smaller.
- Introduction of competition is difficult if there are cross-subsidies and tariffs are not cost reflective
- The Thatcher government had already significantly rebalanced the tariffs in early 1980s which later facilitated reform of the supply market

- If there is a regulated segment in the market and some customers are reluctant to switch, suppliers may allocate costs to the non competitive segments of the market.

Conclusions and Lessons (2)

- Vertical integration and wholesale market arrangements have implications for retail market/competition

- Ofgem believes that generation price rises are passed to customers quicker than price decreases.

- Big picture:
  - Energy prices are expected to rise, so will the extend of government intervention in the sector
  - The case for net economic benefit of competition in retail is inconclusive
  - Climate change as a new and complicating factors
  - Increasing focus on social equity and fuel poverty issues politicizing the sector

- If the UK experience is not appealing, maybe regulated price combined with ‘competition for market’ instead of ‘competition in market’ models be examined.

Thank you!

1st. Supply Price Cap:
April 1990 - March 1994

- **April 1990-March 1994 (RPI-X-Y)**
  - Controlled max. avg. charge per unit of electricity by each REC in both its franchise area and elsewhere
  - All supplies by each REC included in the scope of price control
  - Revenues related to number of units (KWh)
  - X-values = 0, for all RECs

- **Supplementary price control April 90-March 93**
  - For the franchise market only based on RPI+F
  - In effect a cap on total price rises to franchise customers for the first 3 years

2nd. Supply Price Cap: April 1994 - March 1998

- **April 1994 - March 1998 (RPI-X-Y)**
  - Covered franchised customers only (<100kW)
  - Related revenues to a constant term, plus an allowance per customer (estimated %75), and an allowance per unit sold (estimated %25).
  - Constant term varied among firms

  - Customer and unit sold allowances similar for all firms
  - Supply margin = RPI-2
  - £1 energy efficiency allowance and obligation per franchise customer

2nd. Supply Price Restraints 2000-2002 (1)

- Consultation paper (July 1998, replies by 25 Sept)

- Consultation document (June 1999, replies by 4 July)

  Three options:
  - A revised price control
  - Relative price control (to competitive tariff)
  - No price control

2nd. Supply Price Restraints 2000-2002 (2)

Initial Proposals (Oct 99, replies 29 Oct)

- ❖ Prices to be set high to encourage switching
- ❖ Only domestic tariffs to be regulated

- ❖ Regulated price is sum of:
  - Allowed generation cost
    - Profiled pool price + allowed losses + fixed premium
  - Passed through transmission and distribution cost
  - Allowed supply business cost
    - Fixed element + per customer allowance
  - Allowed supply margin
    - Fixed at 1.5%
  - Levy

Emerging Issues and Trends

- Fuel poverty
- Smart grids
  - Still need to find a common definition

- Smart meters
  - Need to define the required functionalities
  - Develop new role out and business models

- Smart prices
- Renewables
- EVs
- Smart homes and home systems
- Community based solutions

- ICT investment needs
- Technological progress will shift the boundaries between the market (competitive) and regulated activities