Critique of CMA direct benchmarking analysis

A note for ScottishPower based on a non-confidential submission to the CMA

12 April 2016

1 Overview

1.   The CMA uses the results of its direct benchmarking analysis in support of its Provisional Decision on Remedies (PDR), and in particular the proposed decision to impose a PPM price cap. The analysis estimates overcharge by the Six Large Energy Firms (SLEFs) by comparing their average weighted tariffs to Direct Debit (DD) tariffs of Ovo and First Utility, after adjusting for differences in cost to serve by payment method. The same methodology is also used by the CMA to estimate the basis for the level of the proposed prepayment price cap.

2.   Oxera has reviewed the CMA's analysis using data made available in the CMA's Confidentiality Ring, particularly with a view to establishing whether the benchmark used by the CMA in evaluating the tariffs charged by the SLEFs is a fair benchmark price that could be expected to prevail in a well-functioning market. Below, we focus on the key departures of the benchmark used by the CMA from what might be considered to be a fair benchmark. These include the following issues:

- incorrect recognition of environmental obligations on benchmark companies
- choice of benchmark companies
- low profitability of benchmark companies
- benchmarking of wholesale costs
- effect of growth in customer numbers on the tariff mix

2 Cost of environmental obligations

3.   Para 3.177 of the PDR explains the treatment of the cost of environmental obligations in the CMA's direct benchmarking analysis.

> *In relation to the costs of environmental and social obligations, as set out in Appendix 7.1 of our provisional findings report, both First Utility and Ovo Energy were fully obligated under the Energy Company Obligation from the beginning of 2015 and were partially obligated in previous years. Therefore, while their prices may reflect some differences in their cost bases in earlier periods, their 2015 prices will reflect a similar cost base in terms of environmental obligations. For this reason, and the fact that in more recent years both Ovo Energy and First Utility have been operating at a larger scale, we place greater weight on the results of the detriment analysis in more recent years.*

4.   The paragraph quoted above suggests that the CMA's direct benchmarking analysis does not take into account differences in cost of environmental obligations on different suppliers. It also suggests that the CMA deems those differences to be negligible as of 2015.

5.   The analysis conducted by Oxera in the CMA Confidentiality Ring suggests that the impact on the results of the CMA's direct benchmarking analysis of properly accounting for differences in cost of environmental obligations on different suppliers is significant, with results for 2015 also being affected. This is primarily because the cost of such obligation is lower for suppliers with a lower number of customers, and the size of the obligation for a given supplier depends on the number of customers/volume of energy supplied in the previous calendar year, which means that there is a time lag effect: a business that grows its customer base over time is subject to lower costs per customer.

6.   The CMA's argument that it places greater weight on results from later years does not in any way mitigate the failure to take full account of differences in cost of environmental obligations on different suppliers. Significant reliance cannot be placed on time series data pertaining to a short period, especially if the data is subject to significant variation and persistence over time, because any observed deviation from a hypothetical 'norm' is unlikely to be statistically significant if it is observed over a short period. Company performance and profits are subject to significant variation over time, and deviations in performance from the mean can last for long periods. The results from this assessment will be significantly more reliable as measures of excess returns if they are calculated over the entire period covered by its analysis.

2.1   Cost of environmental obligations for Ovo and First Utility

7.   This section presents Oxera's estimates of the cost of environmental and social obligations for Ovo and First Utility, which are used by the CMA to create the competitive benchmark, and the SLEFs. Differences in these costs per customer between different suppliers arise because some of these obligations, namely (i) the Carbon Emissions Reduction Target (CERT), (ii) the Community Energy Saving Program (CESP), (iii) the Energy Companies Obligation (ECO) and (iv) the Warm Home Discount (WHD), provide for either a lower obligation rate or an exemption for smaller suppliers. In addition, the fact that certain environmental obligations are levied on the basis of customer numbers/energy volumes supplied in the previous calendar year means that there is a time lag effect: the impact of such levies is lower for businesses that are growing their customer base.

CERT: CERT started in April 2008 and places legal obligations on large energy companies to deliver energy efficiency measures to domestic premises. CERT is composed of several obligations: an overall carbon emission reduction target, a carbon emission reduction target for a 'Priority Group' (consumers aged over 70 and on certain benefits), a carbon emission reduction target for a 'Super Priority Group' (vulnerable households on certain, more narrowly defined benefits) and an insulation installation target. Targets for each of these categories were set for each of the SLEFs. CERT ended in December 2012, but activities exceeding suppliers' obligations under CERT could be carried forward to meet obligations under CERT's successor scheme, ECO (discussed below).

CERT applied to energy companies with more than 50,000 customers at the end of 2008, 2009, and 2010, and to energy companies with more than 250,000 customers at the end of 2011. In effect, the SLEFs were the only energy suppliers subject to CERT obligations.

CESP: CESP was initiated in October 2009 and ran until the end of 2012, obligating large energy suppliers and generators to improve energy efficiency standards in deprived areas of Great Britain. The SLEFs as well as four independent energy generators were obligated to provide energy efficiency measures under this scheme.

CESP applied to energy suppliers with more than 50,000 customers at the end of 2009 and 2010, and to energy suppliers with more than 250,000 customers at the end of 2011. CESP also applied to electricity generators who produced more than 10 TWh of electricity per annum. As the SLEFs are vertically integrated supplier-generators, the bulk of this obligation was borne by the SLEFs, with a small proportion falling on independent generators.

ECO: ECO started in January 2013 and places legal obligations on large energy companies to deliver energy efficiency measures to domestic premises. ECO is composed of three obligations: Carbon Emissions Reduction Obligation (CERO), Carbon Saving Community Obligation (CSCO) and Home Heating Cost Reduction Obligation (HHCRO). Measures implemented under the scheme range from better insulation to boiler repair or replacement.

ECO applies to energy companies with more than 250,000 customers on the 31 December in the previous calendar year, and that supply more than a minimum amount of gas (2,000GWh) or electricity (400GWh). Suppliers are subject to the obligations from 1 January 2013 (if they met the conditions above on 31 December 2011), or from 1 April of the year following when they met the requirements. Ofgem sets obligations for obligated suppliers using a formula based on the supplier's share of total gas and electricity supply.

> **WHD:** Since April 2011, obligated energy suppliers have to provide support to fuel-poor households under the WHD scheme. Suppliers provide direct financial support to the 'Core' and 'Broader' groups; and indirect support ('Industry Initiatives') to vulnerable households. The Core and Broader groups—defined as pensioners and other households who are fuel poor or at risk of fuel poverty—receive a £120-140 annual rebate off their energy payments. Industry Initiatives are supplier-funded programmes such as energy efficiency advice assisting vulnerable households.
>
> All suppliers with more than 250,000 domestic customers as at 31 December of the year prior are obligated under the WHD scheme from 1 April. Additionally, smaller suppliers are allowed to participate to the scheme on a voluntary basis. Ofgem apportions the scheme spending target for each year depending on each supplier's market share for the different customer groups as of the 31 December of the previous year.

8.   Oxera calculated the cost of environmental and social obligations over time for each supplier, using Ofgem data on WHD costs for each supplier;[1] and total CERT, CESP and ECO cost data.[2] Data on the delivery of CESP and ECO measures for each energy company[3] is used to apportion the total cost of ECO and CESP to each supplier over the time period. Data on customer numbers provided in the CMA Confidentiality Ring is used to apportion the total cost of CERT measures.[4]

9.   Oxera also adjusted the ECO cost per consumer for the benchmark companies to reflect a situation in which obligations would be calculated based on present number of customers (and their energy consumption), in order to capture a steady-state value for obligations, rather than for a growing company.[5]

   a.   Oxera applied the customer and supply thresholds for scheme participation to quarterly firm data to determine when First Utility and Ovo would have entered the scheme if obligations were calculated using the prevailing customer base.[6]

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[1] Ofgem, Warm Home Discount reports and statistics, https://www.ofgem.gov.uk/environmental-programmes/social-programmes/warm-home-discount/warm-home-discount-reports-and-statistics , accessed on the 30 March 2016

[2] Competition & Markets Authority (2015) 'Energy market investigation. Provisional findings report', 7 July. Appendix 7.1: Social and environmental obligation thresholds.

[3] Ofgem (2015), 'Energy Companies Obligation Final Report', 30 September; Ofgem (2014), 'The final report of the Community Energy Saving Programme (CESP) 2009-2012', May.

[4] We are not aware of data on the number of measures implemented by supplier being available for CERT.

[5] Note: Obligations are currently calculated based on customer base and market share on the 31 December of the previous year, for entry in the scheme the following April.

[6] For a company that holds a gas and electricity licence:
'A licence-holder that […] holds both a gas supply licence and an electricity supply licence, is a supplier if it had more than 250,000 domestic gas customers and domestic electricity customers at 31 December of the relevant year, and it either supplied more than 400 gigawatt hours of electricity or supplied more than 2,000 gigawatt hours of gas to domestic customers during that year.'
Source: Ofgem (2014), 'Energy Companies Obligation (ECO): Guidance for Suppliers (Version 1.2)', 6 November

    b. Market shares are recalculated based on the prevailing customer base on a quarterly basis, and include all firms that could be subject to ECO in its calculations.

    c. First Utility and Ovo's obligations are uplifted to account for their new market shares, which are different due to earlier entry in the scheme and larger customer base.[7] The obligations for other suppliers are also recalculated based on prevailing market shares.

    d. Total ECO costs are apportioned between energy companies proportionally to their revised obligations and entry dates as calculated in (c) and (a).

    e. These timing adjusted ECO costs feed into total costs of environmental measures per consumer.

10.   The first chart below shows Oxera's estimates of CERT, CESP, ECO and WHD obligations for each of the nine companies entered into the two schemes. As can be seen in Figure 2.1, there is a significant difference in the obligation of the SLEFs and the benchmark companies.[8]

11.   Figure 2.2 shows Oxera's estimates of the timing adjustment, using prevailing market shares, as described above. The obligation for the SLEFs are lower to reflect their smaller market share using this method.

12.   The differences between Figure 2.1 and Figure 2.2 reflect the time lag effects of basing obligations on historic rather than current customer numbers and energy consumption. For one supplier, despite a relatively early entry into the ECO scheme, the actual impact of the obligations as seen in Figure 2.1 is consistently and significantly lower than for the SLEFs until 2015 Q2 because of a combination of rapid growth in customer numbers and the obligation being based on historic customer numbers/consumption. For another supplier, very rapid growth in customer numbers during 2014 sees the impact of the obligations going from nothing in 2015 Q1 to near parity with the SLEFs in Q2 2015.

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[7] These companies are growing so current customer numbers are larger than customer numbers on the 31 December of the previous year.
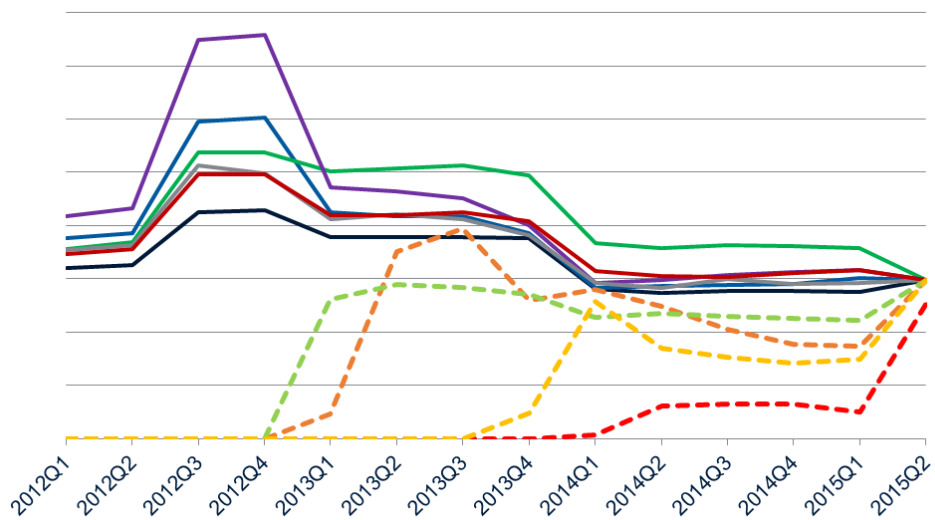
[8] This obligation applies to both gas and electricity customers, and therefore would apply twice to dual fuel customers.

Figure 2.1   Estimated environmental and social obligations
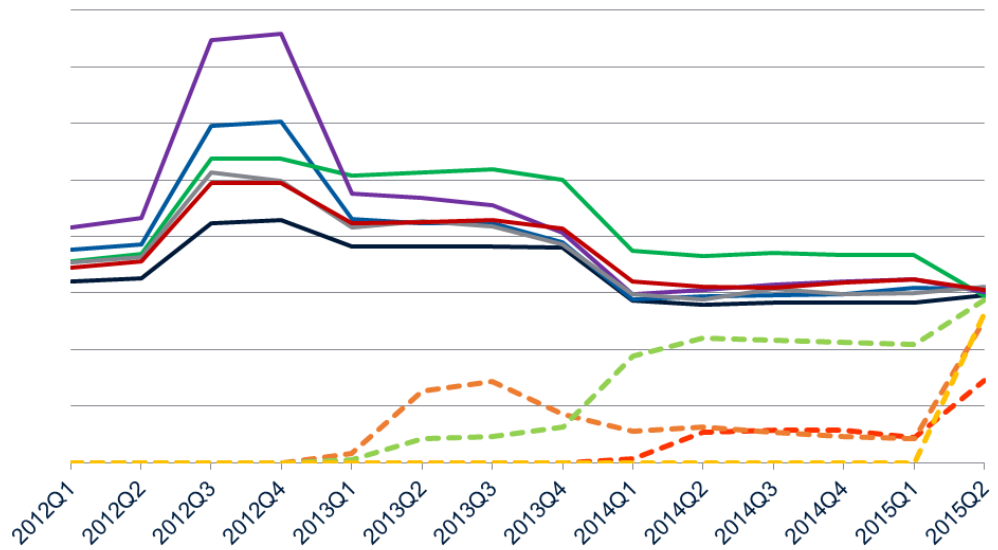
Source: Oxera.

Figure 2.2   Estimating environmental and social obligations: adjusted for prevailing market shares

Source: Oxera.

13.   To ensure that the tariffs of Ovo and First Utility represent a fair benchmark that could be expected to prevail in a well-functioning market, they would need to be adjusted to ensure that their environmental costs reflect their current customer numbers. This follows since it is not theoretically possible for all suppliers to grow their market share simultaneously. A fair benchmark would need to assume a market equilibrium and be characterised by a steady-state value for environmental obligations per customer.

14.   In addition, since lower obligation levels and exemptions represent a cross-subsidy to smaller and growing suppliers by larger suppliers, suppliers that benefit from such cross-subsidies cannot be considered to represent a fair

benchmark against which the performance of the SLEFs can be assessed. To adjust for this and the timing effects identified above, Oxera estimated adjusted tariffs for Ovo, First Utility and the SLEFs in the benchmark period by stripping out estimated costs to each business of complying with the relevant obligations as given in Figure 2.1. This is consistent with environmental obligations applying on an equal basis to all suppliers and with the obligations being proportional to suppliers' current customer numbers. Oxera then calculated the corresponding change to the CMA's direct benchmarking results and to the benchmark tariffs as of 30 June 2015.[9][10]

15.   In Oxera's analysis, after adjusting for the costs of environmental and social obligations for each supplier as set out above, the estimated average annual overcharge is reduced to £362m for all customers and £117m for prepayment customers. The benchmark 2015 Q2 annual dual fuel direct debit bill level is correspondingly increased to £742. This illustrates that a large proportion of the CMA's overcharge estimates for prepayment and other customers is accounted for by the CMA's failure to correctly account for suppliers' costs related to social and environmental obligations. The corresponding effect on the benchmark annual bill, which is used as the basis for the proposed prepayment tariff cap, is also significant.

16.   Oxera's adjustments in relation to the costs of environmental and social obligations assume that the actual impact of these obligations on suppliers' costs is passed-on to retail tariffs contemporaneously. This is a neutral assumption since pass-on can also be argued to be on the basis of historic or anticipated future costs. The basis for the obligations is relatively transparent and timing of entry would likely be anticipated by suppliers. Equally, suppliers' performance against the obligation is assessed at the end of the obligation period on a backward-looking basis, hence they have room to ramp up their performance over a number of quarters after entering a given scheme.[11]

17.   The above points highlight that tariff levels on a particular day may not be a reliable basis for a price cap that would apply over a number of years. Pass-on of costs into tariffs can happen over an extended period. Finally, campaigns and other special offers may significantly distort average tariff levels for a given company on any particular day.

3   Choice of benchmark

18.   In its direct benchmarking analysis, the CMA deemed that the tariffs of Ovo and First Utility represent a fair benchmark against which the performance of the SLEFs can be assessed. This approach is potentially problematic because the use of only two firms is a small sample and hence the results of

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[9] Adjusted benchmark tariff is calculated by applying costs of social and environmental obligations that would have prevailed had they

[10] For 2015, the total ECO obligation for the market is taken as £0.8bn as per DECC impact assessment. The obligation is allocated to each supplier in line with the apportionment rule such that obligations from Q2 2015 are determined by market shares from Q4 2014. The market shares are adjusted for the taper, such as that suppliers with customer numbers between 250,000 and 500,000 face a reduced ECO obligation. The Warm Home Discount is calculated in a similar way. Oxera does not have information on any target for WHD for 2015/16, and therefore has assumed that the total spend on WHD across the industry remains the same as in 2014/15.

[11] The current ECO obligation period is set to end on 31 March 2017. Note that the drafting of this paragraph differs from the drafting of the corresponding Oxera non-confidential submission to the CMA. The drafting in the non-confidential submission mistakenly stated that performance against environmental obligations is assessed on an annual basis.

benchmarking analysis would be expected to be sensitive to the inclusion or omission of a single comparator.

19.   In particular, the CMA has omitted Utility Warehouse and Co-op from its list of comparators. While Utility Warehouse operates a very different business model compared to the other large and mid-tier suppliers, the basis for excluding Co-op appears to be unconvincing. Para 3.172 of the PDR explains the reasons for excluding Co-op from the list of comparators as follows:

> *Although Co-op in principle uses multiple acquisition channels, including, at times, price comparison websites, a large number of its customers have been acquired from the members of the Midcounties Co-operative. Those who were not acquired in this way have also been given the option of becoming members, entitling them to a share in the profits it generates from all business streams, not just from the energy business. This would make it difficult to compare Co-operative Energy prices with that of the Six Large Energy Firms on a like for like basis. Another reason for not including Co-operative Energy in our benchmark is that it is a considerably smaller supplier than First Utility and Ovo Energy and may not yet be operating at an efficient scale. Further, unlike First Utility and Ovo Energy, Co-operative Energy is not yet fully subject to the costs of meeting environmental and social obligations.*

20.   In particular, we note that First Utility and Ovo were not fully subject to relevant environmental obligations either for the duration of the benchmark period. Oxera's analysis adjusts for these differences to put the SLEFs on an equal footing with the benchmark companies.

21.   In addition, the argument that Co-op is not comparable due to dividends being paid to members does not stand up to scrutiny since the amount of dividends payable is relatively small. For somebody paying £80 per month on their dual fuel bill, annual dividend payments would amount to £4.32, which is equivalent to a discount of less than 0.5%.[12]

22.   Oxera's analysis incorporated the tariffs of Co-op into the benchmark using the CMA's existing methodology. First, the weighted average direct debit bill was calculated for each tariff type for each of the three suppliers using the number of accounts within each type as weights. Thereafter, the weights for each tariff type were calculated by computing the proportion of each of the three providers' customers on each of these tariff types. The benchmark estimation then uses these weights to calculate the weighted average bill of each tariff type across the three suppliers.

23.   The adjustments for the choice of benchmark companies set out above were carried out cumulatively with adjustments for correct treatment of environmental costs. Oxera's analysis shows that including Co-op in the set of benchmark companies results in the estimated average annual overcharge being reduced to £220m for all customers and £98m for prepayment customers.

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[12] Energy customers get 1 point for every £2 spent. In 2014/15, dividends were 0.9 pence point. The theoretical customer with an £80 monthly bill would therefore receive an annual dividend of 80*12/2*£0.009=£4.32. For sources of assumptions, see http://www.midcounties.coop/Membership/Share-of-the-Profits-FAQs/ and https://www.midcounties.coop/PageFiles/288/MEM00027%20Everything%20You%20Need%20To%20Know_MEMBERS_v1.pdf.

The benchmark 2015 Q2 annual dual fuel direct debit bill level is correspondingly increased to £751.

4 Profitability of benchmark companies

24.   By benchmarking the tariffs of the SLEFs against the tariffs of Ovo and First Utility, the CMA implicitly assumes that every element underpinning the tariffs charged by Ovo and First Utility, including all of the cost items and the profit, represent a reasonable benchmark for that which would be expected to prevail in a well-functioning market. For much of the period covered by the CMA's direct benchmarking analysis, one or both of Ovo and First Utility are either making a loss or making a profit that is below the benchmark that is considered reasonable by the CMA in its indirect benchmarking analysis.

25.   By using these companies to construct the benchmark, with no adjustments for profitability, the CMA is implicitly assuming that established firms will make losses or sub-par profits for a prolonged period without a corresponding period of super profits in other years. This is not a reasonable approach to proxy for prices in a well-functioning market. Oxera adjusted the benchmark tariffs in the CMA analysis in order to bring the benchmark tariffs to a level that is consistent with a 'reasonable' profit as estimated by the CMA in its Return on Capital Employed (ROCE) analysis.

26.   In order to estimate the size of the adjustment, Oxera have used the information contained in the data room files and followed a number of steps:

- Calculate EBIT per customer for each energy supplier, based on cost and revenue figures and the number of accounts[13] used by the CMA in its analysis;

- Calculate the 'normal' level of EBIT per customer (as defined by the CMA) for each of the SLEFs[14], by multiplying capital employed per customer[15] by 10% WACC (pre-tax nominal);

- Average the resulting figures across the 2012–14 period for each energy supplier;

- Calculate the difference between the 'normal' level of EBIT as defined above and actual EBIT of mid-tier suppliers.

27.   The results of this analysis can be seen in Table 4.1 of Oxera's submission to the CMA.

28.   These results demonstrate that the level of profit established as 'normal' by the CMA's own analysis is considerably higher than that achieved by the mid-tier suppliers during the benchmark period. Specifically, the CMA's benchmark based on tariffs of First Utility & Ovo Energy understates the reasonable level of profitability by around £19 per customer.

29.   Using data in the CMA Confidentiality Ring, Oxera adjusted the tariffs of First Utility, Ovo and Co-op to be consistent with a normal EBIT level as defined

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[13] Dual fuel customers are deemed to represent two accounts.
[14] Note that it was not possible to carry out this calculation for the mid-tier suppliers directly due to lack of available balance sheet data.
[15] Oxera has used capital employed figures as calculated by the CMA, without making any adjustments.

by CMA's ROCE analysis and calculated the resulting adjusted estimates of overcharge during the benchmark period and the benchmark annual direct debit bill level. This was done cumulatively with adjustments for correct treatment of environmental and social obligation costs and including Co-op in the set of benchmark companies. The estimated average annual overcharge is reduced to -£504m for all customers and -£28m for prepayment customers. The benchmark 2015 Q2 annual direct debit bill level is correspondingly increased to £785.

5   Benchmarking of wholesale costs

30.   We note that the CMA's updated indirect benchmarking approach does not seek to benchmark the wholesale costs of suppliers. This follows the criticisms of the CMA's previous attempts to benchmark wholesale costs of suppliers from a number of respondents to the Provisional Findings, including ScottishPower, which pointed out that the prices of wholesale hedging products are highly volatile and timing of purchase of such products can have a substantial effect on the wholesale hedging costs of a supplier.

31.   The CMA's direct benchmarking approach compares weighted average tariff levels of two mid-tier suppliers and the SLEFs. In making this comparison, the CMA implicitly compares all of the cost items of these suppliers and deems the costs of Ovo and First Utility, including their wholesale costs, to be a reasonable benchmark for the costs of the SLEFs. Since wholesale costs are the single biggest cost item for energy suppliers, the results of the implicit wholesale cost benchmarking under the CMA's direct approach are likely to account for a large part of the overcharge estimates produced by the CMA under this approach.

32.   It is inconsistent in principle to benchmark wholesale costs under the direct approach but not the indirect approach. The critique of wholesale cost benchmarking that was produced by a number of respondents to the CMA's Provisional Findings is still valid. As an example, if Ovo and First Utility relied on shorter-term hedging strategies than the SLEFs in a period in which wholesale energy costs were falling, they would have had lower wholesale costs. Assuming that other costs and profits are the same across the comparators, this difference in wholesale costs would show up as overcharge in the CMA's benchmarking analysis.

33.   In order to illustrate this point, Oxera has constructed a simple example of the costs that a hypothetical energy supplier would have incurred in the 2012–15 period if it had adopted the following two hedging strategies:

- Strategy 1: acquire half of expected baseload electricity/gas customer demand via a forward contract for delivery in the next season and another half for delivery one season ahead;

- Strategy 2: acquire half of expected baseload electricity/gas customer demand via a forward contract for delivery one season ahead and another half for delivery two seasons ahead.

Strategy 2 is essentially an offset of strategy 1 back in time by six months. When energy is acquired for the next season, this can be done from the first until the last date of the current season. For the purpose of this exercise, we have assumed that a supplier would hedge for the next season at the average price payable during the current season. A similar principle was applied in cases where energy is bought one or two seasons ahead.

Table 5-1 below shows that, in an environment of falling energy prices, the second longer-term strategy would generally result in higher costs for the supplier.

Table 5-1   Average unit cost under the two hedging strategies

Year	Strategy 1	Strategy 2
Average unit cost for electricity, £/MWh		
2012	51.74	52.76
2013	50.57	52.06
2014	51.17	52.67
2015	48.90	52.32
Average unit cost for gas, £/Therm		
2012	65.05	63.41
2013	65.51	66.17
2014	65.65	67.22
2015	55.12	61.64

Source: Oxera analysis based on data from Bloomberg.

Given the implicit benchmarking of wholesale costs in the CMA's analysis, Oxera has attempted to estimate how much of the headline overcharge figure of £1.7bn could be due to differences in wholesale costs between the SLEFs and the two mid-tier suppliers that the CMA uses as its benchmark.

34.   First, the average unit wholesale costs were calculated separately for two groups of suppliers: the SLEFs and the CMA benchmark firms. This was done for the 2012–14 period using data in the CMA's Confidentiality Ring. The average figures took into account the companies' individual costs, weighted by their supply volumes.

35.   Second, the difference between the costs of the SLEFs and the benchmark was calculated and then multiplied by total SLEFs' supply volumes for electricity and gas. This approximates the 'detriment' arising from differences in wholesale costs that is included in the CMA's overcharge estimates.

36.   Table 5-2 below shows the results of this exercise, with a detailed breakdown available in the corresponding table of Oxera's confidential submission.

Table 5-2   Estimated 'detriment' due to differences in wholesale costs

Total detriment, £m	FY12	FY13	FY14
Total domestic	130	372	199
Average (2012-14 period)		234	
Total domestic (PPM only)[16]	21	66	36
Average (2012-14 period)		41	

Source: Oxera analysis based on the CMA Confidentiality Ring data.

37.   The above analysis indicates that, on average, the SLEFs had higher wholesale costs than First Utility and Ovo Energy which the CMA used as the benchmark. Over the period, the results of analysis undertaken by Oxera indicate that £234m of the CMA's annual average overcharge estimate of £1.7bn is accounted for by differences in wholesale costs between the SLEFs and the two benchmark firms. In addition, £41m of the CMA's annual average overcharge estimate for PPM customers is accounted for by differences in wholesale costs between the SLEFs and the two benchmark firms.

38.   Adjusting the CMA's detriment calculations to exclude differences in wholesale costs cumulatively with adjustments for correct treatment of costs of environmental and social obligations, profitability of benchmark firms, as well as the composition of the set of benchmark firms, results in average annual overcharge being reduced to -£738m for all customers and -£69m for prepayment customers.

39.   Since, under the PPM price cap proposed by the CMA, suppliers will be able to minimise profit risk by copying the hedging strategy specified in the calculation of the price cap, the only differences in wholesale costs that are likely to persist after a PPM price cap is imposed relate to energy already purchased but not yet delivered to final customers at the start of the price control. Hence, to ensure that Oxera's adjustments remain conservative, there is no corresponding adjustment to benchmark direct debit bills that would form the basis of CMA's proposed PPM price control.

6   Growth path and share of SVT customers

40.   A supplier that is growing rapidly by acquiring customers on its acquisition (fixed) tariffs, some of whom end up defaulting onto its SVT tariff, is likely to have a lower share of SVT customers than a supplier that acquires new customers in the same way but does not increase its customer numbers overall because it only just manages to replace those that it loses to other suppliers. Hence, assuming that acquisition (fixed) tariffs are cheaper than SVT tariffs, a business that is growing will have a lower weighted average tariff level than a business that is not growing, even if their corresponding SVT and acquisition (fixed) tariff rates are exactly the same.

41.   It is generally the case across different sectors that breaking into a market and increasing market share requires investment. A lower weighted

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[16] PPM customer share of detriment that relates to wholesale costs is calculated on the basis of the proportion of PPM customer numbers in the total customer mix. The calculation therefore assumes that consumption levels of PPM customers are proportional to the overall customer base and the wholesale hedging undertaken by suppliers to meet the demand of PPM customers is not different to that undertaken to meet the demand of customers using other payment methods.

average tariff level, which would likely be associated with low profitability levels, would be consistent with such an investment strategy. However, behind every such investment strategy is a plan to recoup the investment in the form of higher profits when a certain target market share has been achieved. This would be consistent with an energy supplier reaching a stable number of customers and would imply a lower share of customers being on the supplier's acquisition tariffs.

42.   Ovo and First Utility have grown their customer numbers rapidly during the benchmark period and their average weighted tariff levels can be expected to be subject to the effect identified above. To ensure that the tariffs of Ovo, First Utility and Co-op represent a fair benchmark that could be expected to prevail in a well-functioning market, since it is not possible for every supplier to be growing their market share, Oxera have modelled of the share of SVT customers in the customer mix of Ovo, First Utility and Co-op that would be consistent with a stable overall customer base. The results of this analysis were then used to estimate an adjusted weighted average tariff level for Ovo, First Utility and Co-op on the basis of this customer mix, and also the corresponding direct benchmarking results.

43.   Oxera's approach was to simulate the customer flows for SVTs and fixed-term tariffs for each of these suppliers as shown in Figure 6.1 while calibrating the key parameters to actual data pertaining to the three mid-tier suppliers. The analysis assumes that there are two 'phases' for an entrant energy supplier – a growth phase, where suppliers aggressively attract customers onto their fixed tariffs, and a maturity phase, where suppliers' customer numbers stabilise, but customers churn externally between suppliers and internally between a supplier's tariffs.

Figure 6.1 Customer flows between tariffs
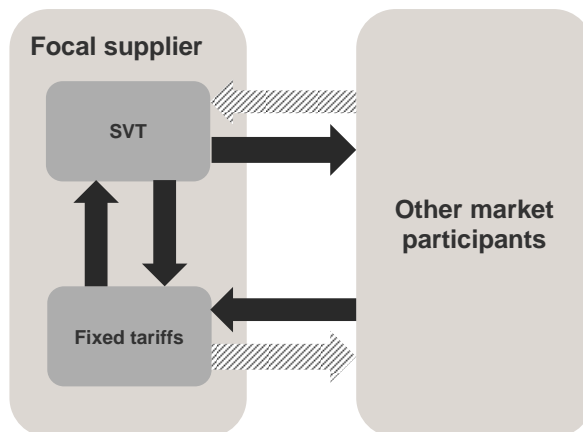
Note: Arrows indicate flows of customers. The analysis includes flows from fixed tariffs directly to other market participants in the overall net growth rate for fixed tariff customers. Flows from other market participants directly to SVTs of the focal supplier are not modelled since survey data provided by the CMA indicates that there are few direct flows in this direction.

Source: Oxera

44.   The analysis calculates the flows from other market participants to the focal supplier in the growth phase based on the implied quarterly growth rates in net customer numbers observed for each supplier in Q1 2012-Q2 2015 for First Utility and OVO and in Q3 2012-Q2 2015 for Co-op. In the maturity phase, it is assumed that the flows from other market participants to the focal supplier are perfectly offset by flows from the focal supplier to other market participants,

resulting in a stable number of fixed tariff customers. Other input parameters remain constant between the two phases.

45.   Since many fixed-term tariffs in the market currently have terms of one year, the analysis assumes that within a year, all fixed-term tariffs end, and those customers are rolled over to the focal supplier's SVT. Some of these customers choose a new fixed tariff from the same supplier, others switch supplier, and still others remain on the SVT. Flows from a focal supplier's fixed tariffs to the focal supplier's SVT (i.e. customers who mature from a fixed tariff onto an SVT, but do not then chose a new fixed tariff) are calculated based on the proportion of SVT customers for each supplier who have never switched tariff with an existing supplier.[17] The flow from the focal supplier's SVT to other market participants is calculated as the ratio of the number of customers who leave the focal supplier within a year to the number of SVT customers the focal supplier has. These flows are calculated separately for each of the three mid-tier suppliers based on survey responses to the GfK customer survey provided by the CMA in the Confidentiality Ring.

46.   The metric of interest from this analysis is the change in each mid-tier supplier's proportion of SVT customers between the growth phase and the maturity phase. This reflects the expected effect of stabilising customer growth rates on the proportion of SVT customers in the overall customer mix of each supplier. Oxera used the ratio of the percentage of customers on the SVT in the maturity phase to the percentage of customers on the SVT in the growth phase to uplift the weighting of SVTs in the benchmark created by the CMA.[18] Results from Oxera's modelling, including the uplifts used to adjust the weight of SVT observations in the benchmark calculation, are available in Table 6.1 of Oxera's confidential submission to the CMA. Note that the above analysis only assumes a different tariff mix at unchanged tariff rates due to stabilisation of customer numbers and does not account for the possibility that Ovo, First Utility and Co-op raise their tariffs in order to bring about that stabilisation when they reach maturity. Hence, the adjustment to the benchmarking results calculated above can be seen as being conservative.

47.   The effect of adjusting the CMA's estimates for the effect described in this section is to reduce the estimated average annual overcharge by £153m for all customers and £24m for prepayment customers. The benchmark 2015 Q2 annual dual fuel direct debit bill level is correspondingly increased by £14.

48.   There is likely to be overlap between the adjustment described in this section and the adjustment for 'normal' profitability of benchmark companies. To ensure that Oxera's estimated adjustments to the CMA's benchmarking analysis remain conservative, adjustments relating to the share of SVT and fixed tariff customers in the customer mix of benchmark companies are excluded from the summary of adjustments in Table 7.1.

7   Conclusion

49.   In summary, the benchmarking analysis undertaken by the CMA does not assess the performance of the SLEFs on a fair and reasonable basis. Oxera's analysis in the CMA's Confidentiality Ring identified the following

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[17] Data taken from the GfK consumer survey commissioned by the CMA.
[18] We preserve the relative weighting of each supplier, and only re-weight the SVT and non-SVT tariffs relative to other tariffs offered by the same supplier in the same quarter.

features of the CMA's analysis that distort the results and create artificially high overcharge estimates. In particular, the CMA's analysis:

- Incorrectly assesses the impact of environmental and social obligations on benchmark companies;
- Omits a valid comparator from the list of benchmark companies – thus biasing the overcharge estimates upwards;
- Assumes that low or negative profitability of benchmark companies can be sustainably replicated by the entire market;
- Relies on benchmarking of wholesale costs of different suppliers despite such costs being subject to volatility of wholesale market prices and thus largely uncontrollable; and
- Fails to account for the effect of growth in customer numbers on the tariff mix of different suppliers.

50.   The distortions created by these features of CMA's analysis affect the benchmarking results for the market as a whole as well as the prepayment segment of the market. In addition, they affect the benchmark that is to be used as the basis for the proposed price cap remedy for prepayment customers.

Impact on CMA's detriment calculation

51.   Table 7.1 sets outs the results of analysis conducted by Oxera in the CMA Confidentiality Ring to correct for some of the issues with CMA's benchmarking analysis identified above. The adjustments are additive and hence the effect of each individual adjustment on the CMA's overcharge estimates can be shown separately. Oxera's results show that, once corrections for key issues have been made, there is no evidence of an overcharge over this period as the CMA's annual average detriment estimate is significantly negative, at -£738m for the entire market and -£69m for the prepayment segment of the market for the period 2012-2015(Q2).

Table 7.1   Oxera adjustments to CMA's overcharge estimates

	Annual average (£m) - All	Annual average (£m) - PPM
CMA estimates of overcharge	1,715	345
Adjust for cost of environmental obligations (I)	*-1,353*	*-228*
Adjusted CMA estimates of overcharge (I)	362	117
Adjust to include Co-op in benchmark (II)	*-142*	*-19*
Adjusted CMA estimates of overcharge (I & II)	220	98
Adjust for low profitability of benchmarks (III)	*-724*	*-126*
Adjusted CMA estimates of overcharge (I, II & III)	-504	-28
Adjust for differences in wholesale cost (IV)	*-234*	*-41*
Adjusted CMA estimates of overcharge (I, II, III & IV)	-738	-69

Source: Oxera

52.   Figure 7.1 charts the changes to the CMA's annual average overcharge estimates for the market as a whole as a result of the adjustments made by Oxera in the CMA Confidentiality Ring. This maps onto the figures shown in Table 7.1 above.

Figure 7.1   Oxera adjustments to CMA's overcharge estimates
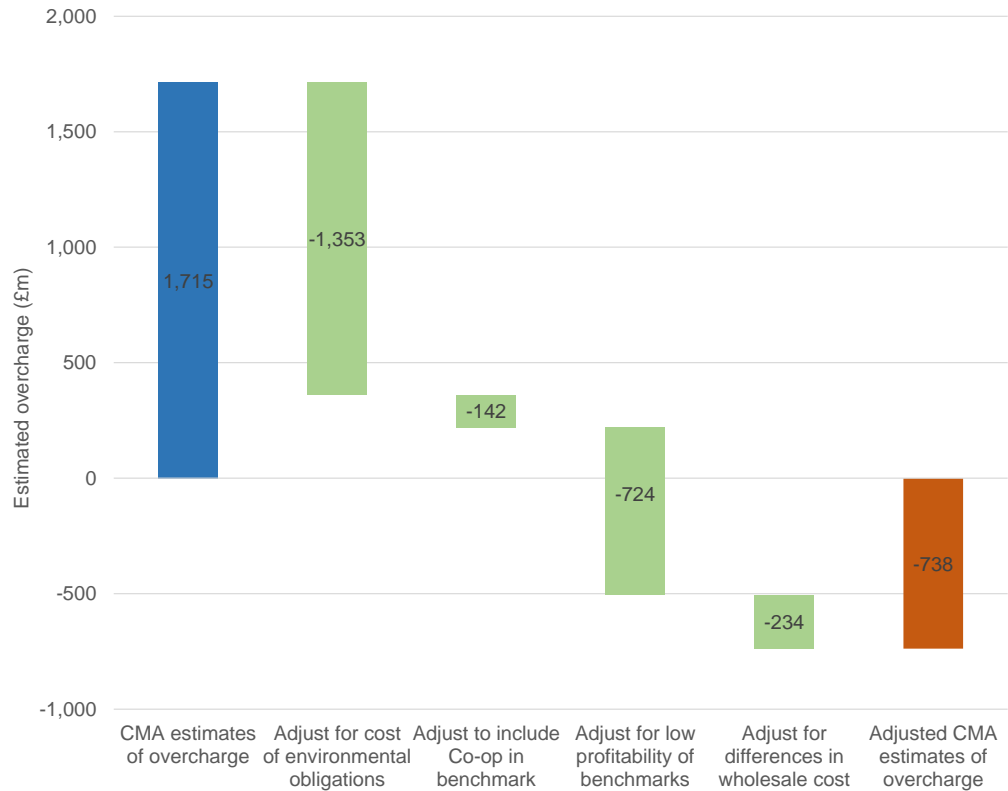
Source: Oxera

53.   The CMA found the average detriment to be £1.7bn for the years 2012-2015(Q2), and in its Table 3.10, also presents detriment calculated for each year, which shows the underlying annual detriment calculations increasing over this period. We have not reported detriment on an annual basis because the adjustments based on differences in wholesale costs, shortfalls in profitability of benchmark companies and the costs of social and environmental obligations show a lot of year-on-year volatility in line with volatility of corresponding costs and profits. In addition, the timing of pass-on of changes in suppliers' costs, such as the costs of social and environmental obligations, is highly uncertain. If annual numbers had been presented, they would likely show an overall increasing trend in the level of detriment through the period with a significant amount of year-on-year volatility. Given the variations that can occur from year to year in company performance, it is preferable to assess performance over a number of years to ensure that conclusions are not driven by results from one particular year. The fact that the average detriment disappears (and in fact becomes negative) once these reasonable adjustments have been made over this period indicates that, against the CMA's chosen benchmark for price in a well-functioning competitive market, the SLEFs have performed well over the recent past. Once the major issues with the CMA's benchmarking analysis are addressed, the adjusted detriment results provide no justification for a highly interventionist remedy such as the proposed prepayment tariff price cap.

54.   Negative overcharge estimates show that the benchmark suppliers would have had to charge significantly higher average tariff rates than the SLEFs in the benchmark period if they were to make a 'normal' level of profit according to the CMA's definition without the help of a partial or total exemption from social and environmental obligations. This indicates that they were likely operating below the minimum efficient scale, particularly in the early part of the benchmark period when they had a smaller customer base, and their costs per customer were higher than for the SLEFs on a like-for-like basis.

55.   The large effect of the adjustments shows that direct benchmarking is not an appropriate method for concluding the extent of any detriment to all domestic customers or PPM customers in particular. The CMA cannot rely on evidence of detriment from a much shorter recent period or on an acknowledgement that these mid-tier suppliers are not good benchmarks for a well-functioning competitive market as they stand without undermining the rationale for its direct benchmarking approach. Indeed, the CMA itself has acknowledged a number of these criticisms, but has concluded the effect on its conclusions would not be substantial. This evidence indicates that the effect of these corrections is material and therefore the CMA has no coherent basis for its finding of a significant and persistent detriment.

Impact on CMA's calculation of the benchmark bill

56.   In the event the CMA does choose to proceed with its price cap for the pre-payment segment, the corrections set out above also affect the level of the benchmark tariff that should be the starting point for the price in a well-functioning competitive market. Table 7.2 sets outs the results of Oxera's analysis to correct the CMA's estimate of the benchmark dual fuel bill for the same issues as those identified above. The adjustments to the benchmark bill are different in magnitude to the adjustments to detriment estimates since the two calculations are based on different time periods. The adjustments are additive and hence the effect of each individual adjustment on the CMA's estimate of the dual fuel benchmark bill can be shown separately. Oxera's results show that, once corrections for key issues have been made, the annual benchmark dual fuel bill is increased to £785.

57.   The adjustment for the cost of social and environmental obligations appears small at just under 1% of the tariff, but is material in the context of margins of 1.5%. The main adjustment is that which ensures the benchmark tariff includes a reasonable return. This assumes that the mid-tier companies' performance in 2015 is at the average of their performance in 2012-2014. If the pricing of the benchmark firms as at 30 June 2015 is consistent with their average profitability for the 2012-2014 period, the profitability adjustment to the benchmark tariff uplifts it to be consistent with profitability that would be considered 'normal' under the CMA's ROCE methodology.

Table 7.2   Oxera adjustments to CMA's estimate of the benchmark dual fuel bill

|	Annual dual fuel benchmark bill (£) – 30 June 2015[19]
CMA estimate	735
Adjust for cost of environmental obligations (I)	*7*
Adjusted CMA estimate (I)	742
Adjust to include Co-op in benchmark (II)	*9*
Adjusted CMA estimate (I & II)	751
Adjust for low profitability of benchmarks (III)	*34*
Adjusted CMA estimate (I, II & III)	785
Adjust for differences in wholesale cost (IV)	*N/a[20]*
Adjusted CMA estimate (I, II, III & IV)	785

Source: Oxera

58.   Figure 7.2 charts the changes to the CMA's estimate of the benchmark dual fuel bill as a result of the adjustments made by Oxera in the CMA Confidentiality Ring. This maps onto the figures shown in Table 7.2 above. It shows that the sum of adjustments to the benchmark annual dual fuel tariff is £50.

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[19] The benchmark bills shown in this table exclude network costs.

[20] Since, under the PPM price cap proposed by the CMA, suppliers will be able to minimise profit risk by copying the hedging strategy specified in the calculation of the price cap, the only differences in wholesale costs that are likely to persist after a PPM price cap is imposed relate to energy already purchased but not yet delivered to final customers at the start of the price control. Hence, to ensure that Oxera's adjustments remain conservative, there is no corresponding adjustment to benchmark direct debit bills that would form the basis of CMA's proposed PPM price control.

Figure 7.2 Oxera adjustments to CMA's estimate of the benchmark dual fuel bill
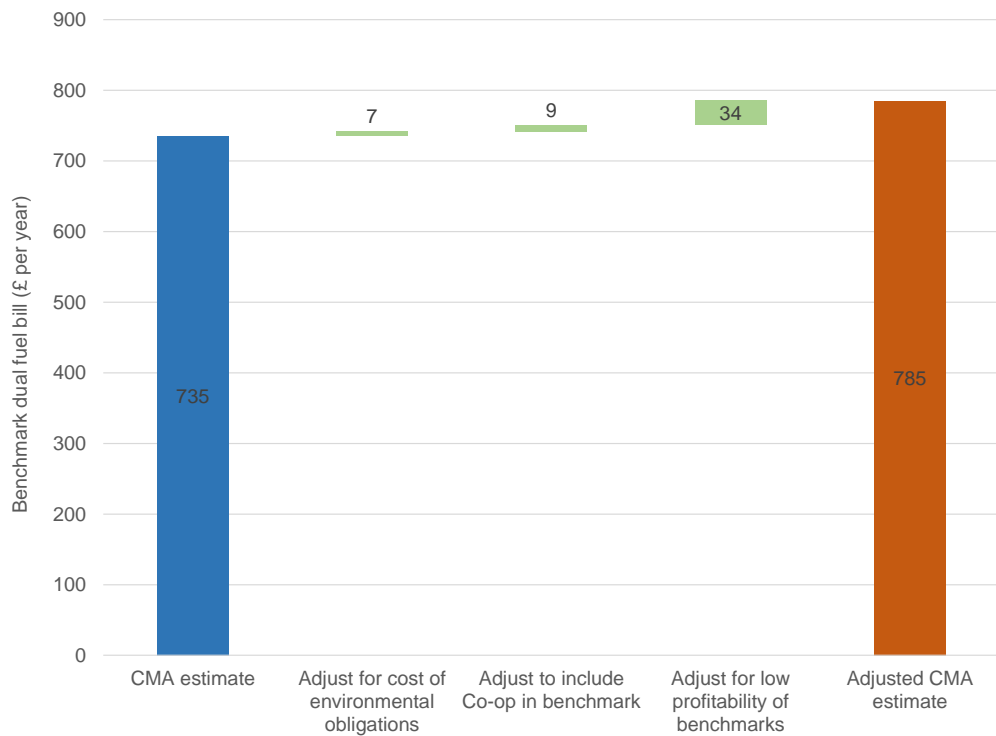
Source: Oxera

59.   Finally, the average tariff level for two particular suppliers on a specific date is unlikely to be a reliable basis for a price cap that would apply over a number of years, particularly if this date falls in a period when the cost base of the suppliers concerned is subject to significant change. This is due to the fact that pass-on of costs such as those associated with social and environmental obligations into tariffs can happen over an extended period, and customer acquisition campaigns may distort average tariff levels for a given company on a particular day.