UNDERSTANDING THE PPM CONTROL

A report prepared for British Gas

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EXECUTIVE SUMMARY

Since 1 April 2017, the prices that suppliers can charge certain domestic customers on prepayment meters (PPM) have been subject to a temporary cap. In October 2017, Ofgem set out its proposals to extend the coverage of this cap to consumers in receipt of Warm Home Discount (WHD).

While using the existing PPM cap may be understandable for pragmatic reasons, given the relative speed with which it can be introduced, it is important that the limitations of this cap are understood. For this reason, British Gas commissioned Frontier Economics to undertake an independent review of the PPM cap.

As part of our work, we have investigated two important questions.

- Were all of the CMA's judgements in designing and calibrating the PPM cap prudent and justified?
- What does the early evidence of the effect of the cap on the PPM market indicate?

Our report looks at each of these questions in turn.

Flaws in the PPM price cap methodology

The CMA designed the PPM tariff cap as part of the Energy Market Investigation. Our analysis of the CMA's methodology finds that it understates the costs incurred by large, efficient energy suppliers. This is for three primary reasons.

- **First, the methodology does not accurately model the wholesale energy costs that an efficiently-run energy supplier can be expected to incur.** In particular, the methodology is likely to have permanently "hard-wired" any wholesale cost advantages that the benchmark firms enjoyed as a result of either their chosen hedging strategies, or simple luck, on the single snapshot date used to calibrate the cap – even though any cost advantages of this nature would in reality have been transitory and unsustainable over the cost cycle as a whole.
- **Second, the methodology is based on only two benchmarks (Ovo and First Utility), neither of which is a good comparator for an efficiently-run large energy retailer serving a diverse set of customers.** Examples include differences in the size and characteristics of the customers that these companies serve, as well as the business models that they employ.
- **Third, the methodology does not accurately model the policy-related costs that an efficiently-run energy supplier can be expected to incur.** This is particularly stark in the case of the costs associated with the smart meter roll out. The CMA's methodology relies on an assumption that the benchmark adequately covers these costs, and is in line with an estimate of £1.50/customer/year. This estimate is far lower than the efficient costs of the roll-out. In addition, the CMA further compounded this error by not considering how unit costs can be expected to change over time as the roll-out gathers pace.

Early evidence from the PPM cap

The PPM cap has been in place since April 2017. We can therefore start to evaluate what the emerging evidence implies about some of the risks that Ofgem identifies may come from the introduction of a cap.

The PPM does not cover the costs of an efficient supplier

The considerations outlined under the previous heading suggest that the PPM tariff cap is being set at a level that is too low relative to the tariff that an efficiently-run large energy supplier could sustain. To test this, we have compared British Gas's costs with the implied allowance under the PPM cap.

Our analysis shows that even though British Gas is now setting prices at the maximum levels permitted by the cap, it is set to make an annual operating loss of approximately £[✂] per dual fuel PPM customer in 2018. These losses on PPM customers cannot plausibly be attributed to cost inefficiency alone: they would require a reduction in indirect costs of more than [✂]% just to get to the point where there would be no headroom in the cap. These cost reductions are markedly larger than the 8%-24% "efficiency" savings that the CMA suggested the six large energy firms would need to make to bring them into line with the costs implied by its benchmark analysis. This evidence casts serious doubt on Ofgem's "key assumption…that the 'prepayment methodology' for calculating the benchmark represents the costs of an efficient supplier."[1]

Reduced competition for PPM customers

Evidence from the PPM sector reveals that the cap is having an impact on supplier and customer behaviour in a way that is consistent with a reduction in competition. There is evidence that:

- most companies are now pricing at or just below the cap – with a number of mid-tier suppliers increasing their prices to the level of the cap;
- given the homogeneity in offers it seems most companies are now (rationally) sticking to the hedging policy contained in the PPM cap roll forward methodology, implying that the regulatory framework is now dictating hedging policy rather than market participants;
- taken together, tariff diversity and innovation has reduced; and
- in just the first two months there is already evidence that PPM customer switching is slowing relative switching rates for other domestic customer groups, and hence we might reasonably conclude so is growth in customer engagement.

Other potential future consequences

In addition to the risks where evidence is just starting to emerge, there are further risks that may play out in future that we are not yet able to assess. These could

[1] "Financial protections for vulnerable consumers – Technical document", Ofgem (11 October 2017) p5.

include a reduction in customer service, risks to the delivery of key policies such as the roll-out of smart meters and the risk that suppliers may struggle for finance or exit the market.

It is therefore imperative that all of these issues raised in this paper are examined thoroughly in advance of any further extension to either the temporary safeguard tariff or to any wider cap on standard variable and default tariffs.

1 INTRODUCTION

Since 1 April 2017, the prices that suppliers can charge certain domestic customers on prepayment meters have been subject to a temporary cap. This Prepayment Meter (PPM) tariff cap was introduced as a remedy following the Competition and Markets Authority (CMA) Energy Market Investigation (EMI) and will be administered by Ofgem until it expires in 2020. In October 2017, Ofgem set out its proposals to extend the coverage of this cap to consumers in receipt of Warm Home Discount (WHD).

While using the existing PPM cap may be understandable for pragmatic reasons, given the relative speed with which it can be introduced, it is important that the limitations of this cap are understood. In contrast to Ofgem's claim that "the prepayment safeguard tariff was designed and set following several rounds of consultation",[2] many of these issues were not properly consulted on during the course of the CMA's investigation.

For this reason, British Gas has commissioned Frontier Economics to undertake an independent review of the PPM cap. As part of our work, we have investigated two important questions.

- Were all of the CMA's judgements in designing and calibrating the PPM cap prudent and justified?
- What does the early evidence of the effect of the cap on the PPM market indicate?

Our report looks at each of these questions in turn. The evidence we present casts doubt on Ofgem's "key assumption…that the 'prepayment methodology' for calculating the benchmark represents the costs of an efficient supplier."[3] This will need to be properly addressed in advance of any further extension to either the temporary safeguard tariff or to any wider cap on standard variable and default tariffs.

[2] "*Statutory consultation for a vulnerable customer safeguard tariff*", Ofgem (11 October 2017). Page 3.

[3] "*Financial protections for vulnerable consumers – Technical document*", Ofgem (11 October 2017). Page 5.

2 THE PPM PRICE CAP METHODOLOGY

The CMA designed the PPM tariff cap as part of the EMI. The CMA stated that its aim for the PPM cap was to mitigate the detriment it considered that PPM customers faced that arose from the Prepayment Adverse Effect on Competition (AEC) and the Domestic Weak Customer Response AEC during a transitional period.[4] The CMA also recognised that in designing the price cap, it would need to be mindful of the need to preserve suppliers' incentives to compete, and mitigate the risk that suppliers would be unable to earn a reasonable rate of return.[5]

The PPM tariff cap draws heavily on the CMA's estimate of the level of detriment arising from the AECs that it had identified. However, this detriment estimate has attracted a lot of criticism. While the CMA sought to address this in its final report, it provided only limited detail on a number of the changes it made. Furthermore, a number of stakeholders disagreed with its final approach, and argued that the low level of the benchmark tariffs reflected material errors of fact and assessment in the CMA's methodology.[6]

Our analysis of the CMA's methodology corroborates these concerns. In what follows, we first summarise the methodology the CMA used to set the PPM cap. We then look at why this methodology is unlikely to meet the CMA's stated aims for the cap. In particular we find that it systematically understates the costs incurred by large, efficient energy suppliers. This is for three primary reasons:

- first, the methodology does not accurately model the wholesale energy costs that an efficiently-run energy supplier can be expected to incur;
- second, the methodology is based on only two benchmarks, neither of which is a good comparator for an efficiently-run large energy retailer serving a diverse set of customers; and
- third, the methodology does not accurately model the policy-related costs that an efficiently-run energy supplier can be expected to incur.

We describe each of these concerns in turn and consider what the available evidence suggests about their validity.

2.1 The CMA's approach

For the purposes of calculating the PPM price cap, the CMA adopted what it referred to as a "'hybrid reference price and cost index approach".[7] This involved first setting an initial level of the PPM cap based on a competitive benchmark analysis and then updating the cap over time to reflect changes in exogenous costs. Below we briefly describe the key features of each of these two components of the methodology.

[4] Energy Market Investigation, Final report, CMA, June 2016. Paragraph 14.26.

[5] Ibid. Paragraph 14.28.

[6] Ibid. Paragraphs 10.67-10.80.

[7] Ibid. Paragraph 11.99.

Approach to calculating the initial level of the PPM tariff cap

In order to calculate the initial level of the PPM tariff cap, the CMA used the 2015 prices of two so-called "mid-tier" suppliers – Ovo Energy and First Utility – as benchmarks. The CMA's justification for focusing solely on Ovo and First Utility was that they were competing primarily through "acquisition tariffs", which constitute "the main channel for the acquisition of active customers".[8] This, the CMA contended, meant that both Ovo and First Utility "have relatively few inactive customers, which means that we would expect their average price (or the 'system' price) to be close to a competitive level".[9]

The CMA recognised that – partly as a result of their intensive use of acquisition tariffs – the price levels charged by Ovo and First Utility during the reference period for the initial calibration were unsustainably low (indeed, Ovo was making a loss at the time). In an attempt to address this, the CMA adjusted the tariffs that Ovo and First Utility actually charged to generate benchmark prices that would be consistent with a 'normal' EBIT margin. For its benchmark analysis, the CMA considered this 'normal' margin to be 1.25% on the basis of the analysis of suppliers' capital bases and cost of capital that it had conducted as part of is analysis of the level of detriment in the energy supply segment.[10] The CMA reasoned that, as long as these adjustments were made, Ovo and First Utility would be appropriate benchmarks since it expected their prices to be close to a competitive level.[11]

Methodology for rolling forward the price cap to subsequent periods

The CMA recognised that the initial level of the price cap would need to be updated to reflect changes in specific exogenous costs over time – namely wholesale costs, network costs, policy costs and inflation:

- for wholesale costs, the CMA's methodology employs an approach that looks at the change in the forward cost of purchasing energy in a six-month "observation window" ahead of each forthcoming tariff cap period compared previous observation windows;
- changes in network cost allowances are calculated for each price cap period using network company charging statements;
- changes in policy costs are indexed by reference to projections of the maximum allowed costs arising from such policies, as set out in the most recent projections from the OBR; and
- the CMA assumed that all other costs (for example, operational costs and costs associated with the smart meter roll-out programme) would change in

8 Ibid. Paragraph 10.21.

9 Ibid.

10 Ibid. Paragraphs 10.29 and 14.227. The CMA concluded that 1.25% would be a 'normal' EBIT margin for companies that use intermediaries to manage their wholesale trading activities. For companies that do not use such intermediaries, it concluded that a normal margin would be around 2%. For the purposes of its benchmarking analysis, the CMA used 1.25% on the basis that its chosen benchmarks – First Utility and Ovo – used such intermediary arrangements. An important assumption underpinning the CMA's analysis here is that such arrangements would continue to be available to suppliers like Ovo and First Utility on similarly attractive terms if such suppliers were to reach the scale of the six large energy firms.

11 Ibid. Paragraph 10.21.

line with inflation, as measured using CPI data from the Office for National Statistics (ONS).[12]

Where relevant for our analysis, we present further details of these indexation methodologies later in the report.

2.2 Flaws in the CMA's methodology

As set out above, when designing the cap, the CMA sought to preserve suppliers' incentives to compete and mitigate the risk that suppliers would be unable to earn a reasonable rate of return.[13] The cap should therefore be expected to cover the costs of an efficient supplier and provide headroom to enable competition to continue to develop. In this section we set out why this is unlikely to be the case. We look at three particular areas where we have concerns about the CMA's methodology:

- the modelling of wholesale energy costs;
- other problems arising from its reliance on a narrow range of benchmarks with specific circumstances and strategies; and
- its estimation of the policy-related costs that an efficiently-run energy supplier can be expected to incur.

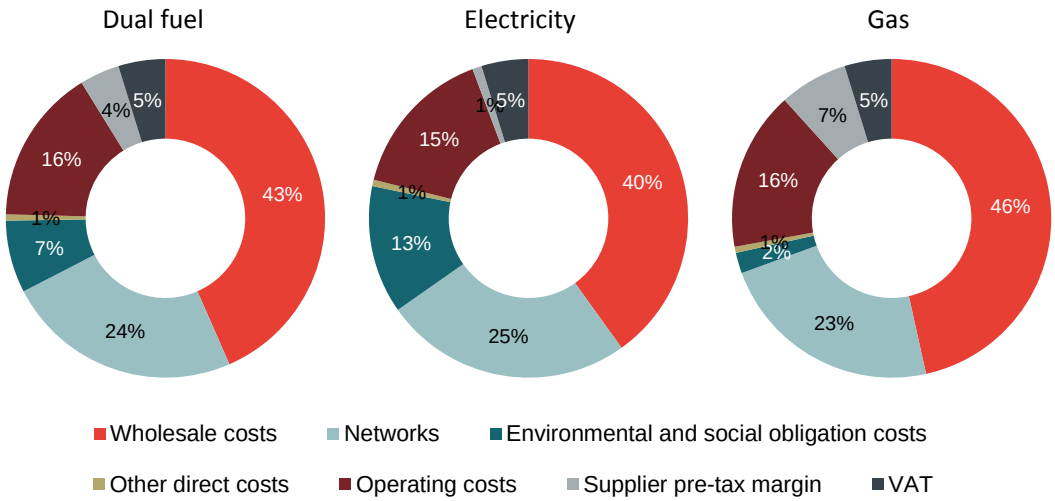
2.2.1 Methodology used to estimate wholesale energy costs

As Figure 1 below shows, wholesale energy costs constitute by far the largest single cost component of domestic customers' energy bills. It is therefore critical that any tariff cap methodology accurately measures or models the wholesale costs that an efficiently-run stand-alone supplier can be expected to incur.

[12] Ibid. Table 14.3.

[13] Ibid. Paragraph 14.28.

Figure 1 Breakdown of typical domestic energy bill



Source: Ofgem.[14]

It is also critical that any methodology for setting a tariff cap that will remain in place for multiple years properly accommodates the dynamic nature of wholesale markets. In particular it must recognise that, in a competitive market, wholesale energy costs exhibit a high level of volatility, and can vary materially across suppliers at any given point in time, depending on each supplier's choice of hedging strategy. The most efficient and appropriate strategy for a supplier will in turn depend on the characteristics of the products that the supplier is offering to its customers, as well as the supplier's tolerance for tariff volatility.

In this context, we have three concerns about the methodology that the CMA has used to model wholesale costs for the purposes of setting the PPM tariff cap.

- First, by combining a snapshot view of retail prices for two benchmark firms with a mechanism for updating energy costs that may bear no relation to the costs incurred by the benchmark firms, the CMA's methodology could result in a price cap that makes an entirely inappropriate – and in all likelihood insufficient – provision for wholesale energy costs.
- Second, there is the potential for any transitory advantages – good luck irrespective of the chosen hedging strategy – enjoyed by Ovo and FU to be hard-wired into the price cap calculation even though these advantages cannot be replicated. The CMA's methodology is structured in such a way that it is systematically more likely to identify as benchmarks those suppliers who have been lucky in this regard.
- Third, the CMA's methodology assumes a 70%/30% weighting of peak and baseload electricity for the purposes of rolling forward the price cap over time that an analysis of the evidence would suggest is not appropriate.

For the reasons explained below, these considerations are likely to mean that the CMA's methodology uses an unsustainably low wholesale cost for the purposes of setting the level of the tariff cap.

[14] https://www.ofgem.gov.uk/consumers/household-gas-and-electricity-guide/understand-your-gas-and-electricity-bills

Flaws in the CMA's methodology could generate wholesale costs that are not achievable

The CMA employed a "hybrid reference price and cost index" methodology for the purpose of setting the tariff cap. This methodology first identifies a set of benchmark tariffs based on an analysis of the tariffs charged by Ovo and First Utility in 2015 (the "reference price" stage), and then uses cost indices to roll forward these benchmarks to later time periods (the "roll forward" stage).

In order to produce a coherent and sustainable tariff cap that appropriately allows for energy costs in each period, it is essential that both the "reference price" and "roll forward" stages of the methodology employ the same assumption about the hedging strategy employed by the benchmark firms. The CMA has not followed a consistent approach in this respect:

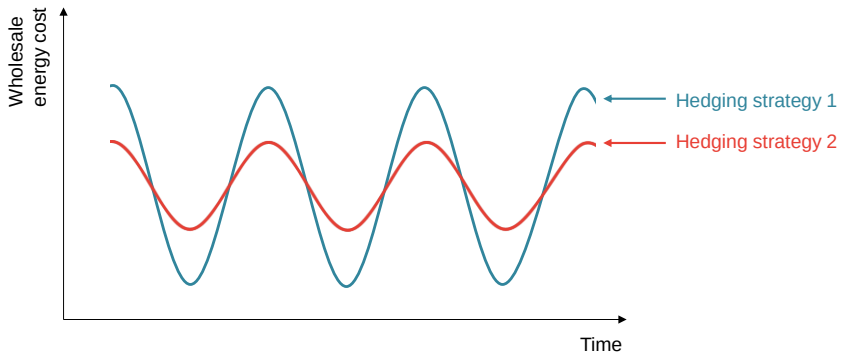
- The CMA's analysis employs a "6-2-12" hedging strategy for the purposes of rolling forward the reference prices over time.
- However, there is no reason to think that this was the hedging strategy used by Ovo and First Utility during the 2015 reference period to calibrate the initial level of the cap. On the contrary, the CMA presented the 6-2-12 approach as a bespoke strategy that was tailor-made to suit its specific objectives for the cap.[15]

While a 6-2-12 strategy may be sensible in light of the CMA's objectives for the cap, the CMA should then also have updated the original 2015 reference prices to be consistent with the prices that Ovo and First Utility would have charged had they been deploying such a 6-2-12 strategy at the time. To see what happens if not, consider the example in the stylised diagrams below.

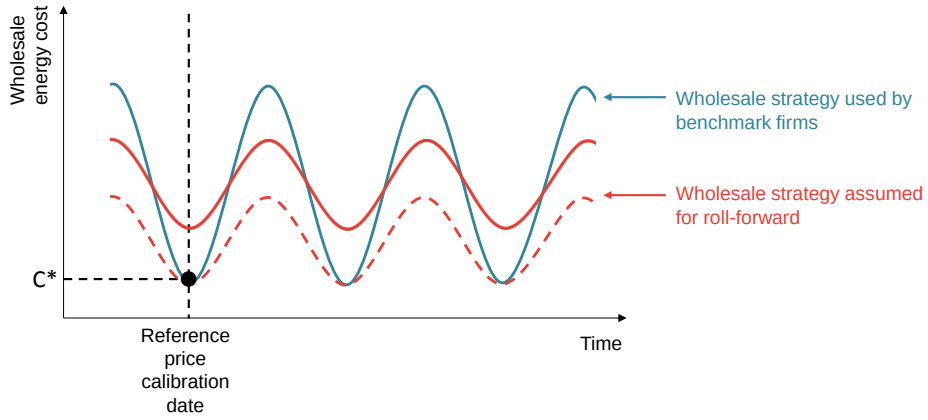
[15] In paragraph 14.165 of its Final Report, the CMA set out the objectives that had informed its choice of a 6-2-12 hedging strategy for the purposes of rolling forward the benchmark. These objectives included avoiding seasonal variation or excessive volatility in the price cap, and not creating undue volume risk, liquidity risk or basis risk for suppliers. In other words, the 6-2-12 methodology was designed by the CMA with a view to meeting these objectives, rather than imitating the hedging methodologies actually used by Ovo and First Utility on the 2015 snapshot date used to calibrate the initial level of the price cap.

Figure 2 Illustration of the potential effects of using different hedging strategies to calibrate and roll-forward the tariff cap

(a) Stylised example of wholesale costs generated by two different hedging strategies



(b) Scenario in which the tariff cap methodology systematically understates wholesale costs



Source: Frontier Economics.

By way of explanation:

- The top chart sets out the evolution of wholesale energy costs over time associated with two illustrative hedging strategies. Although both strategies generate the same costs over the cycle, Strategy 2 provides greater protection against short term swings in energy prices than Strategy 1.
- The second diagram presents a scenario where firms employing Strategy 1 are used as the benchmarks for setting the initial level of the tariff cap (at cost C*). However, the tariff cap is rolled forward on the basis of Strategy 2. As the chart shows the resulting wholesale costs assumed by the tariff cap (represented by the dashed red line) lie below both the Strategy 1 and Strategy 2 lines. In this scenario, the methodology systematically understates the wholesale costs incurred by suppliers, regardless of whether they use Strategy 1 or Strategy 2.

One can in theory also imagine a hypothetical scenario where the flaws in the CMA's methodology result in an over-provision for energy costs, but we think this is unlikely in practice for more than one reason.

- First, First Utility and Ovo were chosen because they had cheap tariffs and this suggests it is likely that they had a wholesale strategy that delivered low cost energy at that time, potentially at the bottom of the cycle. In other words, since wholesale costs account for a significant proportion of suppliers' total cost bases, the CMA is disproportionately likely to have selected as its benchmarks those firms whose hedging strategies were delivering lower wholesale costs on the snapshot reference date. Indeed, more than one respondent to the CMA's Provisional Decision on Remedies suggested that:
  - the six large energy firms typically hedge further ahead than Ovo and First Utility (reflecting the fact that the six large energy firms have a higher proportion of customers on evergreen – rather than fixed term – tariffs than the mid-tier suppliers);
  - because of this, one would expect Ovo and First Utility face lower wholesale costs than the six large energy firms when wholesale costs are falling, and higher costs when wholesale prices are rising; and
  - since wholesale energy costs happened to be falling at the time of the CMA's analysis (and indeed had been falling since 2013) Ovo and First Utility therefore had a temporary cost advantage.[16]
- Second, the empirical evidence we have examined is inconsistent with a situation where the CMA has in effect allowed an overly generous provision for energy costs (see Section 3.1 below, which assesses the losses made by British Gas under the cap).

In other words, by basing its benchmark on Ovo and First Utility prices during a specific period in the economic cycle, the CMA's initial calibration of the price cap has likely hard-wired a wholesale energy cost assumption that is below the level that an efficient large energy firm could have achieved. This would not matter if the cap were rolled forward on the basis of the same hedging strategies that had allowed these suppliers to charge such low prices in 2015. However, as noted above, the CMA has not rolled forward the cap on this basis. This means that even if other suppliers switched their hedging strategy to that used by Ovo and First Utility, the cap would still in all likelihood not allow them to set prices at a level that would cover their wholesale costs.

The CMA's methodology may have hard-wired in any transitory wholesale cost advantages arising from luck

As a further point, it should be noted that – in addition to these considerations of contrasting wholesale strategies – simple luck may have played a role in allowing Ovo and First Utility to achieve low wholesale costs on the snapshot date that the CMA used to calibrate the price cap. Luck can, of course, work in both directions, but the CMA's methodology of selecting the suppliers that were offering the cheapest tariffs on a single snapshot date makes it disproportionately likely to

[16] EMI, Final report, CMA, June 2016. Paragraph 10.79.

have selected those suppliers who happened to be in luck on that date. Rolling forward the wholesale cost index on the basis of the evolution of costs generated by a hypothetical hedging strategy will not correct for this, irrespective of the strategy that is selected. Instead, it will hard-wire this good luck into the price cap calculation even though these advantages cannot be replicated.

The methodology makes inappropriate assumptions around baseload/peak electricity weightings

The CMA's methodology applies an electricity wholesale cost index that is calculated using a weighted average of peak and baseload products to roll forward the price cap over time. Baseload is weighted 70% and peak is weighted 30%. The CMA's indexation methodology does not provide for any change in this ratio.

However, we would expect expenditure on peak products and other shape and flexibility products to increase relative to expenditure on baseload over time. This is because:

- the supply of peak / shaping products is likely to become scarcer in response to changes in the generation mix that results in fewer power plants that have the technical capability to switch on/ramp quickly so as to provide flexibility services (e.g. the plan to phase out coal plants by 2025); and
- the demand for peak/flexibility services is likely to grow as ever more intermittent renewable generation continues to connect to the grid.

The evidence we have reviewed supports this view. Figure 3 shows British Gas's own experience of the balance between baseload and peak products in recent years.

Figure 3 Peak cost as a proportion of total cost[17]

[✂]

Source: British Gas.

As the chart shows, the share of peak product required to hedge the cost of British Gas's power requirements has been rising, and by 2016 was more than [✂]% – substantially higher than the 30% assumed by the CMA.

This marked upward trend indicates that the CMA's 70%/30% weighting assumption is likely to understate wholesale cost growth over time by placing too low a weighting on the peak component of electricity wholesale costs.

2.2.2 Other problems arising from reliance on a narrow range of benchmarks with specific circumstances and strategies

The CMA based its benchmark on just two suppliers – Ovo and First Utility – when a range of other suppliers provided multiple potential points of comparison for the six large energy firms. The narrow range of benchmark suppliers, with

[17] This ratio reflects the mix of power peak and base contracts required to generate a cost that meets the observed residential demand profile. In order to obtain this, actual BGR demand and APX half hourly prices have been used to reconstruct the weighted average cost of electricity (WACOE), baseload and peak prices.

prices observed only for one time period, means that specific and potentially temporary circumstances can have a substantial impact on the benchmark tariff, baking in assumptions about achievable costs that may not be realistic across the market or over a number of years.

During the EMI process much of the criticism of the CMA's analysis of customer detriment (which in turn underpinned its tariff cap methodology) focused on the inappropriateness of using Ovo's and First Utility's prices as benchmarks when both of these suppliers were making heavy use acquisition tariffs and consequently making unsustainably low profits.[18,19] In an attempt to address this, the CMA adjusted the benchmark tariffs to a level that would be consistent with an EBIT margin of 1.25% – which, it contended, represented the EBIT margin that a large stand-alone retail energy supplier should earn (on average) in order to make a 'normal' level of profits (provided that such a retailer had access to similarly attractive intermediary trading arrangements to those enjoyed by Ovo and First Utility at the time that the CMA undertook its analysis[20]). However, the CMA's use of a 1.25% margin was informed by its analysis of energy suppliers' capital bases and cost of capital, the reliability of which was heavily criticised by a number of industry stakeholders and former energy regulators during and after the EMI process. In particular, concerns were raised that:

- first, the CMA's assessment of capital employed relied heavily on the assumption that a large stand-alone supplier would be able to rely on "intermediary trading arrangements" instead of holding trading collateral;
- second, the CMA's assessment of regulatory capital requirements was based on errors of assessment;
- third, the CMA did not make sufficient allowance for the risk capital that a large stand-alone supplier would need to hold in order to be able to withstand short-term losses; and
- fourth, the CMA materially understated the working capital requirements of energy retail businesses.

This element of the CMA's methodology remains controversial and warrants further careful investigation by Ofgem.

However, even setting this concern to one side, our analysis indicates that there are also characteristics of the benchmark suppliers that imply that they face systematically lower costs than those faced by an efficient, large scale energy supplier or charged systematically lower prices. If no adjustment is made for these differences, any tariff cap set with reference to the benchmarks will

[18] EMI, Final report, CMA, June 2016. See for example paragraphs 10.29-10.30, and Appendix 10.1, paragraph 20.

[19] Smaller and mid-tier are at a different point in their life cycle where they are striving to acquire and their margins are not sustainable in the long term. This was is apparent from the low EBIT margins that the firms were making at the time that it conducted its detriment analysis and initial calibration of the PPM tariff cap. Ovo in fact made a loss in the period covered by the CMA's detriment study and initial calibration of the PPM tariff cap. Ovo subsequently reported its first pre-tax profit in the first half of 2016, though this was due to the proceeds from the sale of its smart metering business. Ovo would still have made a loss were it not for these proceeds. For further information, please see:

https://www.ovoenergy.com/about-ovo/media-centre/press-releases/2016/september/ovo-annual-report-2016.html

[20] As noted above, the CMA recognised that a higher EBIT margin would be required in the absence of such intermediary trading arrangements.

systematically provide for insufficient cost recovery. These characteristics include (though are not necessarily limited to):

- differences in average customer consumption levels;
- the high proportion of Ovo and First Utility customers who are online customers; and
- potential differences in overhead costs.

For the reasons explained below, we do not believe that the CMA's methodology adequately addresses these differences. In some instances, the CMA has made adjustments to the benchmark firms' costs with a view to controlling for these differences, but the appropriateness of these adjustments is open to challenge or difficult to assess directly because of the limited detail that the CMA provided about these changes in its final report. In other cases, the CMA does not appear to have controlled for these differences at all.

Differences in average consumption levels

As can be seen from the chart below, the average gas and electricity consumption volumes of domestic customers using the six large energy firms are lower than those of either Ovo or First Utility. Moreover, there is evidence that these differences are growing over time.

Figure 4 Comparison of annualised gas bill volumes per account (MWh)

Supplier	Annualised bill volumes per account as of January 2017 (MWh)	Year-on-year change
First Utility	**16,687**	**17.2%**
Ovo Energy	**15,575**	**20.5%**
Npower	14,564	3.5%
EDF Energy	14,518	6.4%
E.ON UK	14,360	5.9%
SSE	13,126	4.9%
British Gas	12,905	-1.6%
Scottish Power	12,300	-5.1%

Source: Cornwall domestic electricity and gas market assessments.

Figure 5 Comparison of annualised electricity bill volumes per account (MWh)

Supplier	Annualised bill volumes per account as of January 2017 (MWh)	Year-on-year change
Ovo Energy	**4,769**	**18.2%**
First Utility	**4,114**	**11.0%**
EDF Energy	4,062	1.2%
E.ON UK	4,021	2.5%
Scottish Power	3,941	4.0%
SSE	3,922	17.2%
British Gas	3,788	-2.3%
Npower	3,613	-0.2%

Source: Cornwall domestic electricity and gas market assessments.

This means that Ovo and First Utility can spread their fixed costs per account over a larger consumption base than any of the six large energy firms in a world where standing charges alone do not fully cover these fixed costs. In this scenario, the tariff cap methodology would not allow the six large energy firms to cover their own costs, even if it enabled First Utility and Ovo to maintain their historical levels of cost recovery by mimicking their historical tariff structure.

Differences in the proportion of customers who are online

The costs to serve customers who manage their accounts online are lower than the costs to serve customers who manage their accounts by 'traditional' channels such as telephone and physical mail. Both Ovo and First Utility explicitly recognise this and offer their customers discounts for managing their accounts online on the basis of these cost savings.[21]

Information on the proportion of customers who manage their accounts online is not publicly available at the level of individual suppliers. Nonetheless, it would seem likely that small and mid-tier suppliers – including Ovo and First Utility – have a disproportionately high share of online customers relative to the six large energy firms. One would expect newer suppliers such as Ovo and First Utility, who have been the main net beneficiaries of customer switching in recent years, to have a disproportionately high proportion of customers with internet access. This is because Ovo and First Utility have acquired almost all of their customers since the demise of doorstep selling in 2011 and 2012, which removed one of the primary "offline" routes through which suppliers had acquired new customers. Indeed, the customer survey that the CMA commissioned during the EMI found that respondents who had switched supplier (or who indicated that they were likely to consider switching supplier in the future) were more likely to have access to the internet than other respondents.[22]

[21] See for example: https://www.ovoenergy.com/ovo-answers/topics/my-ovo/why-does-ovo-offer-a-discount-for-online-account-management.html and https://www.first-utility.com/help/saving-energy-and-money/what-discounts-are-available.

[22] EMI, Final report, CMA, June 2016. Paragraph 9.161.

The materiality of the differences in the cost to serve online customers relative to other customer groups can be gauged by looking at the scale of the financial incentives that many suppliers – in particular those whose business model is geared towards serving low-cost customer groups – offer to customers who manage their accounts online. For example, Ovo offers a £60 annual discount (£30 for gas and electricity respectively) to customers who manage their accounts online, amounting to approximately 5% of the average annual dual fuel customer bill. Ovo explicitly states that it is able to offer this discount because it faces a lower cost to serve such customers.[23]

Potential differences in overhead costs

The CMA suggested that – even setting aside customer acquisition costs – the remaining overhead costs of the benchmark firms may not be comparable to those of the six large energy firms due to these firms being at different stages in their growth cycles. For these reasons, the CMA adjusted the benchmark firms' overhead costs as a percentage of revenues "to reflect the level of overhead costs that we would expect to see in a large firm that was operating with a stable customer base (i.e. one which was neither growing, nor shrinking materially year on year)."[24] The CMA stated that, to do this, it based the benchmark firms' overhead costs as a percentage of revenue in each year on "First Utility's actual overhead costs in 2014 and 2015" and "Ovo Energy's forecast overhead costs".[25]

We agree that adjustments to the benchmark firms' overhead costs may be warranted in order to control for differences between their specific circumstances and strategies and those of the six large energy firms during the reference period. However, the actual adjustments that the CMA has made are unclear, and therefore difficult to evaluate. For example:

- as noted above, the CMA indicates in Section 10 of its final report that it has made adjustments to Ovo's overhead costs based on Ovo's own forecast future costs;
- by contrast, in Appendix 10.1 of the same report, the CMA states that it has placed more weight on the evidence of the level of overhead costs achieved by First Utility than Ovo, and indicates that it may have made changes to Ovo's overhead costs to bring them into line with these estimates.[26] It is not clear how this reconciles with the approach that the CMA states it has taken in Section 10.

Moreover, the opacity of this stage of the CMA's methodology here is a particular concern, given that would appear to have a substantial impact on the results of the CMA's analysis: based on the impact of this adjustment on the range of EBIT adjustments reported by the CMA, Oxera has estimated that the adjustment could account for between 25% and 85% of the CMA's detriment estimate.[27] This

[23] https://www.ovoenergy.com/ovo-answers/topics/my-ovo/why-does-ovo-offer-a-discount-for-online-account-management.html

[24] EMI, Final report, CMA, June 2016. Paragraph 10.28.

[25] Ibid.

[26] Ibid, Appendix 10.1. Paragraph 38.

[27] "*CMA Energy Market Investigation—critique of CMA consumer detriment analysis*", Oxera, March 2017. Table 1.1.

in turn would indicate that this adjustment has a significant impact on the level of the benchmark that underpins the CMA's tariff cap, given the close linkages between the CMA's direct detriment analysis and its tariff cap methodology.

2.2.3 Methodology used to estimate policy-related costs

Supply tariffs cover the cost of delivering a number of important policy objectives: some of these are led by suppliers (such as the smart meter roll-out, ECO and faster and more reliable switching) while others require the recovery of costs incurred elsewhere (such as CfD costs and ROC prices). The tariff cap needs to be set to reflect the costs of the delivery of these policies. In a number of instances the methodology used by the CMA to set the PPM cap did not adequately address these costs and so does not provide an appropriate basis for any extension. Therefore, without adjustment, the regulatory regime will simultaneously require suppliers to deliver a set of policy obligations and deny them the ability to fund this delivery programme without loading the associated costs disproportionately onto customers on tariffs that are not covered by the cap.

Adjustments to the PPM control need to be made with respect to policy costs where:

- the allowance in the base year is inadequate and/or the indexation methodology applied does not reflect the changes in the costs; and
- the policy has arisen since the control was first set, and so is not included within the original benchmark.

We illustrate the first of these with respect to the costs associated with the smart meter roll-out and the second in relation to the reliable and fast switching programme.

The smart meter roll-out

The CMA's methodology for the inclusion of the costs associated with the smart meter roll-out relies on an assumption that the benchmark adequately covers these costs, and is in line with an estimate of £1.50/customer/year that it bases on the 2014 DECC smart meter Impact Assessment.[28] This estimate is far lower than the efficient costs of the roll-out. The CMA further compounded this error by not considering how unit costs can be expected to change over time as the roll-out gathers pace.

Inappropriate benchmark

The CMA's cost estimate for the smart programme at £1.50/customer/year is based on the £36m per year (2009 prices) figure for the Equivalent Annual Net Cost to Business (EANCB) provided in DECC's 2014 Impact Assessment for smart meters.[29] This document does not set out the basis of this calculation in a way that can be replicated, but given the nature of the estimate it will not reflect the incremental net costs from smart faced by suppliers.

[28] EMI, Final report, CMA, June 2016. Paragraph 14.238.

[29] Ibid.

- The smart meter policy framework is one in which customers have to actively "opt in" to agree to take a smart meter. Customer engagement is therefore a key part of the process to get a customer to agree to take a smart meter and then to ensure that they can maximise the benefits from its use. The Impact Assessment does not include any such costs for suppliers to generate this demand, other than through the funding of SEGB. To set a control that excludes these costs would seriously jeopardise the roll-out.
- Since the number comes from an Impact Assessment, no allowance has been made for the costs faced by suppliers when dumb meters are removed early. When acquiring a retail customer, any energy supplier will know that it has a commitment to get that customer on to a smart meter. If that customer currently has a dumb meter, the costs it will face may include a stranding cost for that meter if there are unrecovered costs. If this is the case, then the energy supplier will only want to acquire customers if the price they can charge covers these incremental costs otherwise, on average, acquired customers will be loss-making. Dumb meter stranding costs must therefore be included in the price cap as, absent this, a situation would be created where there is a disincentive for suppliers to compete for customers.
- The calculation was based on the 2014 Impact Assessment. DECC did not update the EANCB value in its 2016 review to the Impact Assessment (as there was no change to existing policy that required it to be recalculated). However, it would need to be recalculated for use in this calculation as other movements in the costs and benefits in the 2016 update would suggest that the net costs have increased. In addition, any updated Impact Assessment would need to take account of the fact that price regulation was now envisaged, as this would be expected to further increase the costs, and reduce the benefits, of the roll-out. [30]
- Further, the latest British Gas evidence from its installation of smart meters shows that the net costs of delivering this programme are higher than the 2016 Impact Assessment would suggest. For example DECC has materially over-estimated the scale of supplier benefits that they can be expected to generate. In particular, the benefits associated with avoided site visits, inbound enquiries and customer switching are an order of magnitude higher than the benefits that British Gas currently expects to realise.

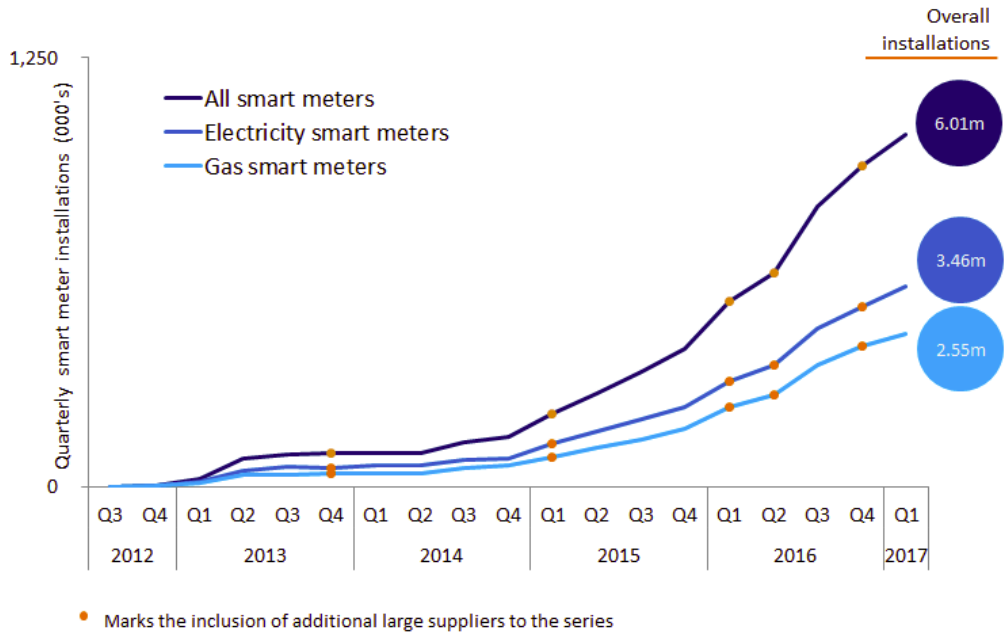
Evolution of costs

The CMA methodology assumes that unit smart meter costs will only rise with inflation. This is not the case for the smart meter roll out.

- First, the number of meters being installed in each year will be expected to rise month on month until sometime in 2018 or 2019 (depending on each supplier's individual plan). As the number of installations increase, the unit cost per customer to be recovered in the tariff cap will also need to increase. It can already be seen from Figure 6 that the number of installations far exceeds those that took place when the PPM benchmark was estimated.

[30] For example, the take-up of innovative tariffs would be expected to decline, given the "safe haven" effect discussed in Section 3.2.

Figure 6 Quarterly domestic installation activity for large energy suppliers



Source: Smart Meters Quarterly Report to end March 2017 (National Statistics).

- Second, a number of the costs associated with the cost and installation of the meters are amortised, and therefore will continue to become cumulatively more important as smart meter numbers increase.
- Third, meters are likely to become more expensive to install over time, as the "harder" to reach customers become a larger percentage of the pool of customers left to convert.

Because of these changes it will not be possible to rely on unadjusted historic measures of cost that are indexed by inflation. Instead, to be able to set an appropriate benchmark an assumption will need to be made about the appropriate rate of meter installation, as well as the associated unit cost, on a forecast basis.

We have therefore looked at British Gas' costs to illustrate what costs actually need to be recovered in the tariff cap over time. In particular, we have looked at the net costs[31] associated with the transition to smart meters that need to be recovered within this part of the tariff cap. For this reason, we have excluded any network costs and benefits (on the basis those will be reflected within the methodology for calculating network costs). Figure 7 below sets out the headline results of this assessment.

Figure 7 Forecast net cost associated with the transition to smart meters accruing to British Gas (per household per year)

[✂]

Source: British Gas.

[31] This is based on total costs of the roll-out (excluding network costs) less the benefits that accrue to suppliers.

As the chart above shows:

- The net roll-out cost to British Gas per household per year is forecast to vary significantly over time. This indicates that the tariff cap methodology's assumption that these costs could simply be rolled forward from their 2015 level on the basis of the CPI inflation rate is not appropriate.[32]
- Indeed, the net cost to British Gas of the roll-out in 2017-19 is expected to be [✂]. This means that even if the net costs associated with the smart meter roll-out were accurate in the initial period used to calibrate the benchmark, the methodology will underestimate the actual net cost of the smart mater roll-out programme to British Gas in 2017-19.
- Further, the chart also shows that – even in the initial calibration year (2015) – the net cost to British Gas of the smart meter roll-out programme was £[✂]/customer/year. This [✂], and provides further evidence that it is inaccurate, at least insofar as it applies to large suppliers such as British Gas.

Faster and more reliable switching

As well as ensuring that the cost of policies that were in place at the time the PPM control was first set are appropriately estimated, the costs associated with new policies will also need to be introduced. The costs associated with the programme to move to faster and more reliable switching were not included within the PPM control, given that they were not part of the Ovo/First Utility benchmarked cost base and no separate adjustment to include them was made by the CMA. While these costs are not yet certain, they are material under a number of the proposals currently being discussed[33], particularly with respect to the upfront investments costs that will need to be made.

[32] EMI, Final report, CMA, June 2016. Paragraph 14.239.

[33] For example, the range considered in Ofgem's June 2017 Switching Programme options paper ranged from £200m to £700m over the 15 year period.

3 EARLY EVIDENCE FROM THE PPM CAP

The PPM cap has been in place since April 2017. In this section we look at the evidence that is starting to emerge since its introduction. In particular, we look at the evidence associated with some of the risks that Ofgem highlights in its vulnerable safeguard tariff Impact Assessment[34]. This includes the risks that:

- suppliers will make a loss on those customers who are eligible for protection if the assumption that the PPM methodology reflects the costs of an efficient supplier is inaccurate;
- suppliers may reduce the number of tariffs available to vulnerable consumers; and
- consumer engagement will reduce, making it more difficult for these consumers to benefit from competition in the future.

In addition to these risks where evidence is just starting to emerge, we also note that there are further risks that may play out in future that we are not yet able to assess. This could include a reduction in customer service or a slow-down in the speed of innovation in the sector, as well as risks to the delivery of key policies such as the roll-out of smart meters and the risk that suppliers may struggle for finance or exit the market.

3.1 The PPM cap fails to cover the costs of an efficient supplier

The considerations outlined in the previous section suggest that the PPM tariff cap is being set at a level that is too low relative to the tariff that an efficiently-run large energy supplier could sustain. In this section we look at what the early evidence from the operation of this price cap reveals about the ability of suppliers to cover the costs they incur as a result of serving these customers.

To test this, we have compared British Gas's costs with the revenue allowance under the PPM cap. This has allowed us to assess whether British Gas is making an operating loss on its PPM customer base, and to quantify the magnitude of this loss, if it were to continue charging at the maximum level permitted by the cap for the period January 2018 to December 2018.

For the purposes of this analysis, we have drawn on revenue and cost information provided by British Gas.

- On the revenue side, British Gas provided us with future revenue projections [✂].[35] British Gas has based these revenue forecasts on projected customer account numbers and total consumption volumes (kWh) for this period.
- On the cost side, British Gas provided us with projected future fixed and variable cost estimates for serving PPM customers for the period January 2018 – December 2018. These costs include commodity costs, network-

[34] See Section 5 of Ofgem (2017).

[35] [✂].

related costs (balancing costs, and transmission and distribution charges), policy-related costs (such as those relating to Renewables Obligation Certificates, Contracts for Difference, the Energy Company Obligation and Feed-in Tariffs), metering costs, bad debt costs and other operating expenditures.

As shown in Figure 8, our analysis indicates that British Gas would be making an operating loss of close to £[✂] at the maximum tariff level permitted by the PPM tariff cap across its electricity and gas customers in the prepayment market for the period January 2018 - December 2018.

Figure 8 British Gas's operating loss at the maximum tariffs allowed by the PPM cap between January 2018 – December 2018

[✂]

Source: Frontier Economics and British Gas.

This in turn implies that British Gas would be making an annual operating loss of approximately £[✂] per dual fuel PPM customer in the period January 2018 – December 2018. This indicates that British Gas would need to make substantial cost reductions across the entirety of its cost base, equivalent to approximately [✂]% of the cost of serving these customers, to be able to avoid serving these customers at a loss. For certain cost heads (e.g. network charges) no savings are possible, implying even greater proportionate required savings in other areas.

Energy suppliers would need to find even more substantial cost savings to create sufficient headroom for effective competition beneath the level of the cap. Illustratively, if British Gas were to charge 10% below the maximum level permitted by the cap, it would be making an operating loss of approximately £[✂] per dual fuel PPM customer in the period January 2018 – December 2018. In this scenario, British Gas would need to make savings of around [✂]% per customer in order to make an operating profit of zero.

These cost reductions are markedly larger than the "efficiency" savings that the CMA suggested the six large energy firms would need to make to bring them into line with the costs implied by its benchmark analysis. In its EMI final report, the CMA suggested that the six large energy firms would need to reduce their *indirect* costs by 8%-24% to bring themselves into line with the CMA's benchmark of an efficient company over the 2007-14 period.[36] However, indirect costs constitute only a small proportion – approximately 15% – of suppliers' total costs.[37] Even a 10% reduction in the total cost base (which on the basis of our analysis would afford no headroom for competition below the cap) would require a reduction in indirect costs of more than [✂]% – substantially higher than the top end of the CMA's range.

In summary, the current PPM tariff cap would not provide a sufficient level of revenue to cover British Gas's costs even if it were able to deliver the efficiency savings highlighted as necessary by the CMA. In other words, British Gas's

[36] EMI, Final Report, CMA, June 2016. Table 10.7.

[37] Ibid. Paragraph 9.302.

losses on PPM customers cannot plausibly be attributed to cost inefficiency alone.

3.2 Reduced competition for PPM customers

A price cap can reduce the level of competition between suppliers if it is set at too low a level. It can lead to this outcome through two routes.

- First, a cap will remove the financial incentive for suppliers to compete for customers if it is set at level that is too low to allow suppliers to cover their costs.
- Second, a cap may reduce customers' incentives to shop around, thereby making it harder for suppliers to compete effectively for business. A stringent cap will directly reduce the available gains from switching, by narrowing the gap between eligible customers' bills and the cheapest tariffs available in the market. More generally it is likely to reduce customers' incentives to engage by creating a sense among eligible customers that they are "protected", and so do not need to take any action (irrespective of whether the capped product is really the cheapest in the market).

Notwithstanding the fact that the PPM tariff cap was only introduced in April 2017, evidence from the PPM sector already reveals that the cap is having an impact on supplier and customer behaviour in a way that is consistent with a reduction in competition. There is evidence that:

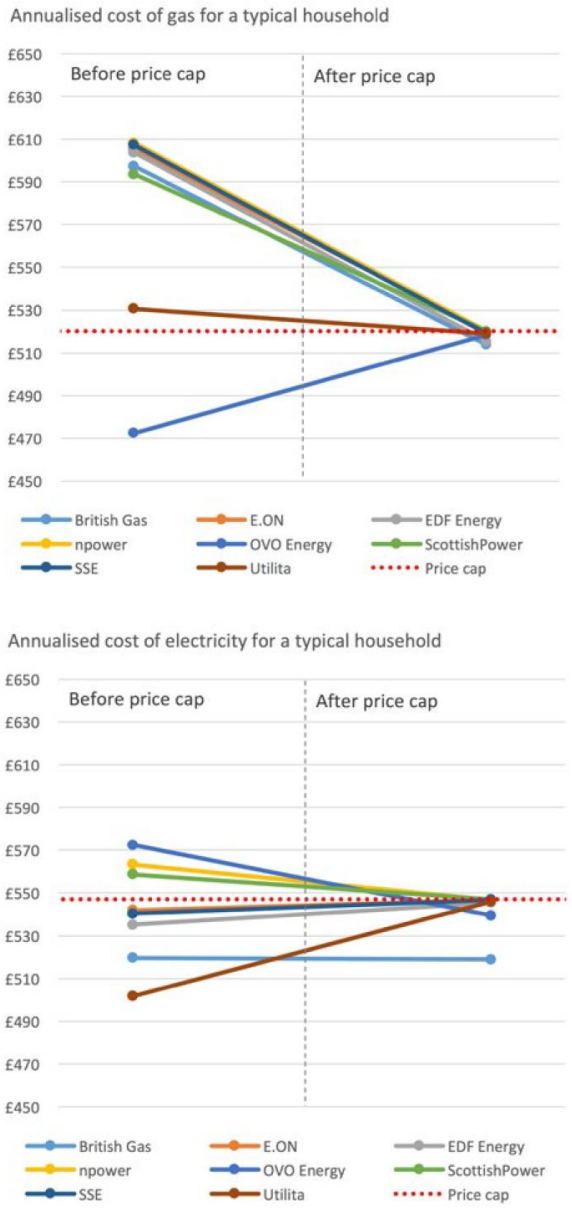
- most companies are now pricing at or just below the cap – with a number of mid-tier suppliers increasing their prices to the level of the cap;
- given the homogeneity in offers it seems most companies are now (rationally) sticking to the hedging policy contained in the PPM cap roll forward methodology, implying that Ofgem is now dictating hedging policy rather than market participants;
- taken together, tariff diversity and innovation has reduced; and
- in just the first two months there is already evidence that PPM customer switching is slowing relative switching rates for other domestic customer groups, and hence we might reasonably conclude so is growth in customer engagement.

(i) Evidence of convergence in prices

In its 2017 State of the Energy Market Report, Ofgem conducted an analysis of the impact of the PPM tariff cap on standard variable rate tariffs for the eight largest PPM suppliers.[38] The results of Ofgem's analysis are reproduced in Figure 9 below.

[38] Ofgem State of the Energy Market Report 2017, page 32: https://www.ofgem.gov.uk/system/files/docs/2017/10/state_of_the_market_report_2017_web_1.pdf According to Ofgem, the suppliers in these charts collectively serve 90% of PPM customers.

Figure 9 Annualised cost of gas and electricity for a typical household on a PPM tariff



Source: Ofgem State of the Energy Market Report 2017.

As the charts show, the majority of these suppliers were pricing at levels above the tariff cap and subsequently reduced their prices to the level of the cap (or just below this level) once it came into force. However, the charts also indicate that a number of mid-tier suppliers that had previously been charging prices below the level of the cap increased their prices to cap level following its introduction. The only supplier that continued to offer tariffs materially below the level of the cap in the charts – British Gas – has since also increased its PPM prices to the maximum levels permitted by the cap.[39]

[39] Prior to this, British Gas had maintained its tariffs at pre-cap levels, due a to price freeze commitment that was in place until August 2017.

(ii) Loss of product diversity

In its EMI Final Report, the CMA flagged that one possible unintended consequence of a tariff cap may be that suppliers do not attempt to compete in the affected segments as strongly or at all, as they instead seek to minimise risk by structuring tariffs to align as closely as possible with the price cap.[40]

In its 2017 State of the Market Report, Ofgem noted that there was already some evidence of a loss of product diversity in this regard. In particular, it flagged that it had seen the withdrawal of some zero standing charge tariffs:

"*Before the cap was introduced, four suppliers offered tariffs with no standing charge […]. After the cap, only two suppliers offered zero-standing charge tariffs. As a result, some low-use electricity prepayment customers are likely to have seen their bills increase from April, and the alternatives available to this group have fallen.*"[41]

In this respect the tariff cap would appear to have led to a detrimental loss of choice for many of the 34,000 electricity or Economy 7 customers and 14,000 gas customers who Ofgem reports had opted to use these tariffs before they were withdrawn.

Further, even if the cap were set at a level that provided suppliers some room to compete, the presence of the cap is likely to have the effect of dictating the wholesale energy purchasing strategy they can afford to follow and the structure and duration of tariffs that they can therefore offer. This is because the level of volatility in wholesale energy prices is sufficient to ensure that any retailer that chooses to depart from the 6-2-12 model would face a material level of exposure.

Analysis provided by the CMA in its EMI Final Report (replicated in Figure 10 below) illustrated the scale of these risks. For the purposes of this analysis, the CMA modelled what index values a 6-2-12 hedging strategy would have produced, had it been applied in the past.[42] It then compared this to:

- what the equivalent index values would have been had it instead been informed by a 12-month rateable hedging strategy (i.e. a strategy designed to reduce exposure to short-run swing in wholesale costs by spreading purchases for a given delivery day over a 12-month period); and
- month-ahead prices reflecting day-to-day expectations for the cost of delivering energy at a short time into the future.[43]

As the CMA's chart shows, these different approaches to hedging result in substantial differences in energy costs at different points in time:

- there have been periods in which the daily month ahead price would have been 120-150% higher than the 6-2-12 (semi-annual) index price (see for instance during 2005/2006 and 2008); and

[40] EMI, Final report, CMA, June 2016. Paragraph 14.405.

[41] Ofgem State of the Energy Market Report 2017, page 33.

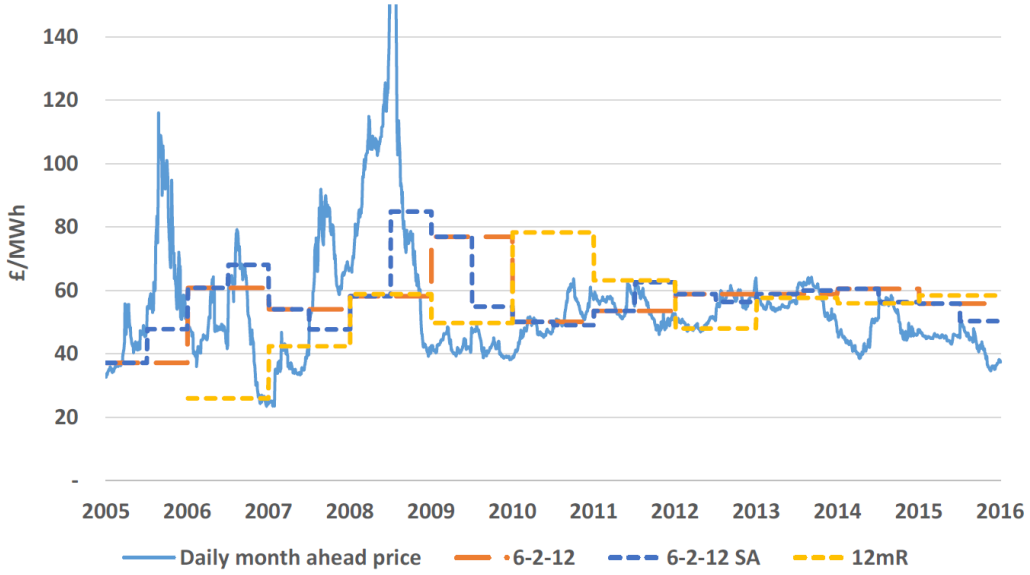
[42] The CMA's chart shows the 6-2-12 indices associated with both annual and semi-annual ("SA") price cap updates. The CMA ultimately chose the SA option for the purpose of its PPM tariff cap methodology.

[43] To compare indexation options, the CMA focused its analysis on electricity peak load products, but suggested that the same dynamics apply between baseload and peak electricity and gas.

- there have also been periods where the wholesale cost associated with the 12-month rateable index would have been up to 60% higher than the costs implied by the 6-2-12 (semi-annual) index (see for instance during 2010).

A 60%-150% wholesale cost differential would be equivalent to a 24%-60% increase in the cost of serving a typical domestic electricity and gas customer.[44] This dwarfs the headroom allowance of 4.23% for single fuel electricity (single rate meter) and 3.48% for single fuel gas that the CMA's PPM tariff cap methodology permits.[45] In other words, a tariff cap would need to build in multiple times more headroom than this to give suppliers enough space to adopt different hedging strategies without taking on substantial risk.[46] [✂]

Figure 10 Breakdown of typical domestic energy bill



Source: CMA Energy Market Investigation Final Report, Figure 14.5.

If suppliers are effectively forced to follow a common hedging strategy, one would expect this in turn to reduce the scope for diversity and product innovation, and indeed there is already evidence of this. Of the 33 PPM tariffs available on uSwitch as of June 2017, only three were fixed rate deals. By forcing suppliers to homogenise their hedging strategies and tariff structures in this way, a wider tariff cap would in effect run directly counter to the CMA's own efforts to encourage tariff innovation and diversity. It is notable that one of the flagship remedies to emerge from the EMI was the removal of the Retail Market Review (RMR) four-tariff rule, on the basis that this rule "[limited] the ability of suppliers to compete and innovate and provide products which may be beneficial to customers and

[44] This is because wholesale energy costs account for approximately 40% of the cost of supplying a typical domestic customer – see Figure 1 above.

[45] EMI, Final report, CMA, June 2016. Table 14.2.

[46] As the charts also show, there are periods when adopting a different hedging strategy would deliver lower wholesale energy costs than the 6-2-12 costs assumed for the purposes of the wholesale cap. However, one would expect competitive pressure to drive prices below the cap in such a scenario. In other words, if suppliers were to adopt a different hedging strategy to the 6-2-12 strategy assumed by the tariff cap methodology, they would deliver a significant downside risk (i.e. no ability to increase prices if wholesale costs turn out to be higher than those assumed by the cap) but no guaranteed benefit if wholesale costs turn out to be lower than those assumed by the cap.

competition".[47] Although rolling out the PPM tariff cap to a wider group of customers would not place formal limits on the number or range of tariffs that suppliers can offer, the evidence indicates that it will have such an effect in practice.

(iii) Reduced customer engagement

The above analysis indicates that a tariff cap may reduce the diversity of tariffs and products available to customers. This is both by leading suppliers to price at the level of cap (if the methodology does not afford them sufficient headroom) and by effectively forcing suppliers to adopt a common hedging strategy, and thereby limiting the range of products they can offer. As noted above, this may in turn reduce customers' incentives to engage in the market. In addition to this, the CMA recognised that there was a risk that – irrespective of the effect of the tariff cap on tariff and product diversity – some customers "may feel they benefit sufficiently from the price cap such that there is no need to investigate alternative tariffs in the market".[48] Some market participants have referred to this as a "safe haven" effect.

Since the tariff cap has only been in place for six months, it is too early to tell for sure whether it has brought about such a reduction in customer engagement. However, the emerging evidence would point to a reduction PPM customers' share of switching activity following the introduction of the cap that would be consistent with this.[49]

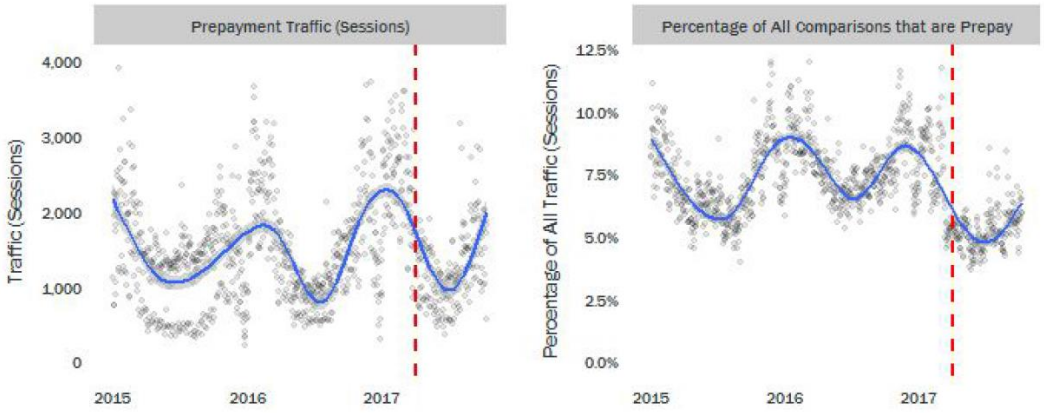
Evidence of this has been uncovered by recent analysis conducted by uSwitch, reproduced in Figure 12 below. These shows trends in PPM traffic on uSwitch's website before and after the introduction of the PPM tariff cap.

[47] EMI, Final report, CMA, June 2016.. Paragraph 174.

[48] Ibid. Paragraph 14.401.

[49] "*Has the Prepayment Price Cap Impacted on Switching Levels at uSwitch?*", Dr Neil Bailey - uSwitch inSight Analyst, October 2017, page 3.

Figure 11 Trends in PPM traffic on uSwitch before and after the introduction of the PPM tariff cap



Source: uSwitch

Note: the vertical red dashed line denotes the date at which the tariff cap was introduced.

As the left hand chart shows, the introduction of the price cap has as yet had no discernible impact on absolute PPM traffic volumes on uSwitch, after allowing for seasonal variations. However, as the right-hand chart shows, there is evidence that there has been a decline in the PPM share of all comparisons. uSwitch notes that there has been a significant year-on-year decline in 2017 in this respect. This may provide some early evidence that, while domestic customer engagement is increasing across the industry as a whole (with switching rates returning to peak levels not seen since the ban on doorstep selling[50]), the introduction of the tariff cap may now be acting as a counterweight to this and holding back engagement amongst PPM customers.

Any reduction in customer engagement as a result of the tariff cap would have negative implications for the ability of suppliers to compete effectively for business. This could in turn create the risk that a tariff cap designed to provide temporary protection during a period of transition to a more competitive environment could end up blocking this transition and thereby becoming a self-perpetuating feature of the market. Furthermore, reduced customer engagement could negatively interfere with other key policy objectives. For example, for the reasons explained in Section 3.3 below, it could increase the costs of the smart meter roll-out while simultaneously reducing the value of the programme by making it less likely that customers respond to smart signals. This in turn would have negative consequences for demand management and faster switching, as well as competitive intensity.

The CMA ultimately dismissed these concerns in the context of its PPM tariff cap on the basis that it would be limited to a small group of customers (customers on dumb prepayment meters) over a strictly limited period (the life of the PPM tariff cap remedy). It also argued that there appeared to be limited competition in the segments for non-smart prepayment customers in any event, and therefore that "the marginal impact of any disincentivisation resulting from the PPM Price Cap Remedy, relative to the current status quo, may be relatively small".[51] If a tariff

[50] See for example Ofgem State of the Energy Market Report 2017, page 26, Figure 2.6.

[51] EMI, Final report, CMA, June 2016. Paragraph 14.402.

cap were rolled out across a wider customer group, or was intended to be in place for a longer period, these observations would clearly not hold.

3.3 Other potential future consequences

In addition to the risks where evidence is just starting to emerge, there are further risks that may play out in future that we are not yet able to assess.

(i) Reduced quality of service

A tariff cap risks reducing the quality of service in two respects.

- First, lower switching rates resulting from lower levels of customer engagement may reduce the need for suppliers to compete on service.
- Second, to the extent that the tariff cap is set at too low a level, it may place considerable pressure on suppliers to make cost cuts that impair the quality of their service offer.

In the EMI Final Report, the CMA dismissed such concerns around the impact of the PPM tariff cap on quality of service on the basis that Standards of Conduct, which suppliers are obliged to deliver, would mitigate this risk.[52] To the extent that this is the case, however, one would still expect the pressures listed above to drive standards down to any minimum permissible level set by the regulator. Any Standards of Conduct that do not specify explicit or quantifiable service levels (e.g. a general requirement that suppliers are “easy to contact”) would end up being interpreted in a way that was commensurate with the level of cost afforded by the price cap. The outcome would be a regulatory regime that in effect dictates both prices and levels of service quality, and leaves no room for suppliers to compete on either criterion. In such a scenario, suppliers would become little more than agents acting on behalf of Ofgem, rather than customer-centred retailers competing for business.

If the price cap were rolled out to a wider customer group, losses of this nature would place considerable pressure on suppliers to make cost cuts that impair the quality of their service offer.

(ii) Risks to policy delivery

Energy suppliers have an increasingly important role to play in the delivery of obligations relating to environmental and social policy objectives on behalf of government. The imposition of any tariff cap has the potential to adversely impact the delivery of these policies. This is in part because, as we set out in Section 2.2.3, the CMA failed to take proper account of their cost when it set the PPM cap resulting in an insufficient level of funding. But it is also because the cap itself could have further impacts. We very briefly illustrate this for two of the most important supplier-led policies: the smart meter roll-out and the faster and more reliable switching programme.

[52] Ibid. Paragraph 14.419.

- The smart meter roll-out is entering a critical phase and yet the "safe haven" effect that the price cap will create means that fewer customers are likely to take advantage of the tariff innovation associated with the widespread take-up of smart meters. This will undermine the benefits case for smart meters and prevent the step-change in engagement and innovation that should be expected.
- The faster and more reliable switching programme will also be adversely affected. As we describe above, it can be expected that the tariff control will result in lower savings from switching and reduced switching levels. By reducing the propensity of customers to switch, these effects will have a knock-on impact on the programme's expected benefits.

(iii) Increased perception of regulatory risk

The CMA recognised that investors could perceive increased regulatory risk in the energy sector as a result of a price cap being implemented, and that this perception of greater regulatory risk could result in investors seeking higher rates of return. This in turn, the CMA acknowledged, would increase costs for suppliers and ultimately the prices paid by customers.[53]

The importance of regulatory risk to required rates of return (and therefore suppliers' costs) is not a purely theoretical concern. On the contrary, credit ratings agencies explicitly take account of – and place a high importance on – the stability and predictability of the relevant regulatory regimes when determining ratings for energy companies. For example, the Competition Commission's 2012 price determination on Phoenix Natural Gas Limited (PNGL) reported that Moody's based 40% of its overall assessment in its credit rating decision on the regulatory environment, and that the agency's view of the stability and predictability of the regulatory regime accounted for 15% out of this 40%.[54] Indeed, Moody's explained that its rating for PNGL was in part influenced by the "higher possibility of changes to the overall regulatory approach" in Northern Ireland relative to Great Britain at the time.

In its Final EMI Report the CMA reasoned that the PPM tariff cap would be unlikely to create material regulatory risks of this nature, because of the "limited scope" of the remedy (i.e. its application to a narrow subset of customers) and the "clearly defined termination date and the limited duration".[55] If the tariff cap were rolled out across a materially wider range of customers (or indeed if it were to lack a clear sunset clause), these mitigating considerations would not hold.

(iv) Risk that suppliers may struggle for finance or exit the market

In its EMI Final Report, the CMA acknowledged that there was a risk that under-recovery of costs as a result of a tariff cap, or the fear of costs not being recovered, might lead some suppliers to seek to exit the prepayment segments.[56]

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[53] Ibid. Paragraph 14.422.

[54] Phoenix Natural Gas Limited Price Determination, Competition Commission, 28 November 2012, paragraph 8.5.

[55] EMI, Final report, CMA, June 2016. Paragraph 14.420.

[56] Ibid. Paragraph 14.416.

The CMA rejected this concern in the context of its PPM tariff cap on the basis that supply licences require that suppliers provide an offer to supply to any customers that request one. Thus, the CMA reasoned, "the only way for a supplier with more than 50,000 domestic customers to completely exit the prepayment segments would be to entirely cease licensed activity and relinquish its supply licence", and that "the incentives against doing so are strong enough that the likelihood of this outcome is low".[57] While this may be true for a tariff cap that only applies to a small subset of customers, it would not hold were the tariff cap to be rolled out to a materially wider group. Moreover, in such a scenario, investors may be unwilling to provide finance to suppliers if they perceive that the tariff cap will prevent them from making a sufficient return on investment. Such financeability constraints may prevent suppliers from being able to compete effectively for customers affected by the cap even if they formally have obligations to supply such customers.

[57] Ibid.

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