

# CRA Report on Ofgem's approach to calculating the EBIT allowance

Prepared on behalf of So Energy

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So Energy

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## 1. INTRODUCTION

### 1.1. Purpose of this paper

1. So Energy has retained CRA to comment on aspects of Ofgem's consultation, "Amending the methodology for setting the EBIT allowance", as issued on the 25th of November 2022.<sup>1</sup> In particular, we have been asked to produce an independent opinion on the approach taken to calculate an asset beta, used for the purpose of calculating an appropriate EBIT margin allowance for the Default Tariff Cap (DTC) for energy retail companies.
2. We have been asked to consider whether it remains appropriate to retain the estimate of an asset beta of 0.7-0.8 for retail energy utilities which is similar to that calculated by the Competition and Markets Authority (CMA) as part of its Energy Market Inquiry (EMI) in 2016.<sup>2</sup>

### 1.2. Structure

3. Our report will cover the following elements:
  - In **Section 2** we provide a summary of the context to this consultation that we consider important to address in our report.
  - In **Section 3** we review the 2016 Competition and Markets Authority findings on appropriate asset beta for UK energy retail supply companies and draw implications for the current consultation.
  - We discuss, in **Section 4**, why the risk to investors in the pure play energy retail segment has increased since 2021 due to increases in commodity prices and why this risk needs to be incorporated into the beta calculation.
  - In **Section 5**, we explain why it is reasonable to assume that beta for the retail sector will change over time, discuss quantitative evidence that it has and the implications for remuneration of that risk.
4. We summarise our conclusions in **Section 6**.

## 2. CONTEXT

### 2.1. The EBIT allowance within the default tariff cap and the need to calculate an asset beta

5. Ofgem introduced an EBIT allowance as part of the DTC. It is intended to provide a normal rate of return for an efficient supplier serving standard variable tariff (SVT) customers. The approach taken is based on the CMA's 2016 analysis of what a normal rate of return should be in the retail market.<sup>3</sup> This "normal" rate of return embeds an assumption about the cost of capital (debt and equity) for such a supplier. In developing this estimate, the CMA used the Capital Asset Pricing Model (CAPM).

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<sup>1</sup> We note that this is a further consultation to one originally published on 26 August 2022.

<sup>2</sup> Competition and Markets Authority, Final Report, Energy Market Inquiry, Appendix 9.2, 2016.

<sup>3</sup> CMA EMI 2016, Appendix 9.12, para 74, p. 28.

6. The CMA assumed that retail energy suppliers were 100% equity financed. The EBIT assumption, therefore, reflects only a calculation of the cost of equity to retail energy suppliers. This in turn requires the estimation of a "beta" parameter which measures the correlation between returns of a given stock with those of the broader marketplace.

7. As Ofgem notes in its consultation,

*"Ideally this correlation can be calculated directly by regressing the observed returns of individual listed companies, or a portfolio of companies, on the returns of a wider diversified index of equities. However, if no – or limited – relevant companies are listed, this is not possible. In these circumstances, **significantly more judgement is required** in establishing reasonable proxies from within the relevant sector – or from other sectors – for which beta estimates do exist."*<sup>4</sup>

## 2.2. The CMA estimated a beta of 0.7- 0.8 of retail energy supply in 2016

8. The CMA was able to find reliable data on only a single energy retail company for its beta calculation. Instead, it triangulated on a value for energy retail by drawing conclusions from the betas derived for companies in other business segments such as: large energy companies, generation firms, high street retailers, and airlines. It concluded that energy retail companies were approximately as risky as the broader market. This implies an equity beta of 1 which, after taking account for average market gearing of 30%, would mean an asset beta in the range of 0.7-0.8.

## 2.3. CEPA concluded that there was reason to increase beta from a short-term perspective

9. In August 2022, Ofgem retained CEPA to review the calculation of EBIT in the DTC. As part of this calculation, CEPA provided an estimate of beta for energy retail companies. In doing so, CEPA performed three tasks:

10. **Firstly**, it provided a qualitative assessment of the riskiness of energy retailers operating in the GB market. It compared, also qualitatively, that riskiness with that of the wider UK marketplace. In summary it found that there is,

***"a perception of greater market risk and covariance of returns from GB energy retail and the wider market portfolio. This may provide some justification for considering that in the current retail energy market environment, the relative risk of investing in an energy retailer (i.e., relative to the market) has increased and may be higher than when the CMA undertook its analysis [in 2016]."***<sup>5</sup>

11. **Secondly**, it carried out a quantitative analysis of different comparator sectors to calculate an estimate of beta. It reviewed potentially direct retail utility comparisons, other types of energy companies (including business segments other than just retail), groceries, high street retail, and aviation companies.

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<sup>4</sup> Ofgem Consultation, November 2022, para 5.105, p. 69. Emphasis added by CRA.

<sup>5</sup> CEPA Report, p. 29, Emphasis added by CRA.

12. Like the CMA previously, CEPA found there to be insufficient market evidence from directly comparable firms but what evidence did exist<sup>6</sup> in combination with comparisons to other sectors suggested it could be possible to support the CMA's 2016 argument for a beta range of 0.7–0.8 in normal market conditions,
- “as a **long-term**, forward-looking view of the relative (market) risk of an energy retailer.”*<sup>7</sup>
13. However, CEPA seem not to consider current circumstances to be “normal market conditions”. It concluded that,
- “there are a number of reasons to consider that GB energy retailers can be considered **temporarily exposed to greater risk**, in particular, linked to energy costs being such a high proportion of disposable income.”*<sup>8</sup>
14. It considered factors such as lower and more volatile consumption patterns creating cost recovery risks, increased levels of debt, risk of bad debt, and investor perceptions of the DTC. It also concluded from a Bank of England monetary policy report that energy retail and the wider UK economy may have become more systematically linked due to the contribution of energy costs to inflation and the risk of recession. Finally, it concluded,
- “it is entirely plausible to conclude that beta in its more narrow technical sense (i.e., a measure of relative market risk), has increased since the CMA's findings – **we consider the energy retailer beta might need to be high as 1-1.2, broadly equivalent to an investment in an airline**, to compensate investors for the trading and bad risks they may face where these are **not accounted for elsewhere within the price cap**.”*<sup>9</sup>
15. **Thirdly**, it cross-checked its findings considering Centrica's current activities, asset beta and share price and qualitatively drew conclusions on the implications that had for general retail energy betas. It made this comparison because it believed an increasing share of Centrica's earnings were coming from its energy retail operations and that Centrica might be thought of as an anchor for judgements in the same way Ofgem uses National Grid as an anchor for its RIIO-2 comparisons.
16. It found that Centrica's asset beta had recently increased and was above the 0.7-0.8 range when using shorter estimation windows (despite having a more diverse portfolio of activities), implying by comparison that its energy retail activities would have, therefore, a higher asset beta than 0.7-0.8. It also observed that Centrica's ratio of enterprise value<sup>10</sup> to EBITDA (an approach for estimating equity values) had declined and remained low and that this was plausibly,

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6 CEPA used Just Energy and Telecom Plus following the CMA's approach, which both exhibited an asset beta below the 0.7-0.8 range. CEPA also considered Good Energy but decides not to include it in its analysis because of the stock's low liquidity.

7 CEPA Report, p. 31. Emphasis added by CRA.

8 CEPA Report, p. 31. Emphasis added by CRA.

9 CEPA Report, p. 32. Emphasis added by CRA.

10 Enterprise Value (EV) measures a company's total value. It can be used as a comprehensive alternative to equity market capitalization which includes debt.

*"that investors' discount rate (cost of capital) had increased."*<sup>11</sup>

17. It also observed that Centrica's share price to earnings ratio implied a cost of equity higher than the CAPM estimated beta range. It also noted increases in credit default swap prices in 2022, noting,

*"the trend observed (since the start of 2022) [...] is also supportive of investors increasing their risk perception of companies involved in the energy sector, although the rise in swap prices is a trend that is observed more widely as illustrated by the iTraxx Europe index."*<sup>12</sup>

18. It cross-checked these conclusions with valuation evidence from the SSE/OVO acquisition – which occurred before the current market volatility and did not provide evidence to justify an increase in the beta. It also considered the outcome of the Bulb sale – occurring amid the market turbulence, with only one buyer, as indicative evidence of greater risks in the sector.

19. On the balance of this analysis – both quantitative and qualitative, CEPA concluded in its report of 25<sup>th</sup> August 2022 that there was,

*"both current market evidence, and reasons in principle and in practice, to conclude the appropriate beta assumption for the DTC cost of capital may currently be higher than 0.7-0.8."*

*We consider that in the current circumstances of energy markets in the UK and globally, an energy retailer might be subject to higher market/systematic (i.e., non-diversifiable) risk, as captured by the CAPM's beta parameter, than under 'normal' market conditions."*<sup>13</sup>

20. Only if one would consider a longer run and historical perspective could they,

*"concur with the conclusions that the CMA reached at the time of the EMI [in 2016]. That is, an asset beta of 0.7-0.8 implying the riskiness of an investment in a standalone GB energy retailer (excluding gearing effects) is broadly consistent with an investment in the market overall."*<sup>14</sup>

## **2.4. Ofgem has chosen to retain an assumption of 0.7–0.8 for its asset beta**

21. Ofgem has recognised that,

*"CEPA, in coming to their judgement that a higher "short-term" beta might be justified, acknowledged that some of the drivers behind a higher beta might not be "purely systematic risks from the perspective of CAPM". They stated that placing too much emphasis on the assumptions of CAPM, in particular with respect to systematic risk and beta, could result in Ofgem "underestimating investors' required returns in the current market"."*<sup>15</sup>

22. Ofgem rejected, therefore, CEPA's judgement as,

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11 CEPA Report, p. 35.

12 CEPA Report, p. 36.

13 CEPA Report, p. 37.

14 CEPA Report, p. 37.

15 Ofgem Consultation, November 2022, para 5.128.

*"we do not believe using qualitative judgements to set an arbitrarily higher beta represents an analytically robust approach... Even in a scenario where it was possible to robustly calibrate an uprating of the asset beta to reflect these qualitative judgements, we consider doing so risks overcompensating suppliers in the context of our proposal to include risk capital within our capital employed assumptions."*<sup>16</sup>

23. Instead, Ofgem retained an asset beta range of 0.7-0.8 (as per the CMA) on the basis that the systematic risk faced by energy retailers was more than that of integrated energy companies (beta in range 0.4-0.7) and less than high street retailers (0.6-0.9) and airlines (0.9-1.2) as estimated by CEPA.<sup>17</sup>
24. Ofgem rejected various arguments that energy retail companies are subject to greater risk than reflected in its beta estimate on the grounds that some of those risks were "idiosyncratic" and thus not remunerated under the assumptions of the CAPM (as they are, from an investor's point of view, diversifiable in a portfolio.)<sup>18</sup>
25. Therefore, Ofgem has concluded that energy retail companies are no riskier, from an investor's perspective, today relative to the broader market than was assessed by the CMA in 2016.

## 2.5. Some implications to challenge

### 2.5.1. Exercise of judgement

26. Firstly, notwithstanding significant issues with CAPM as a method for determining an appropriate return on investment which we do not discuss in this paper but that are summarised in Ofgem's consultation<sup>19</sup>, there is no robust direct calculation of beta for energy retail companies because as most if not all retail energy supply companies have not been listed on the stock market.
27. The CMA exercised significant judgement in setting a range for beta in 2016. The CMA took stock of prevailing market conditions, in assessing the relative risk of energy retail companies.
28. In its November 2022 consultation, however, Ofgem has chosen to persist with a range based only on empirical findings from other sectors and types of companies, rejecting the CEPA's own application of judgement in reviewing its available empirical evidence. In Section 3, we will consider whether the CMA's 2016 approach can in fact be used to justify a qualitative use of judgement to uprate beta estimates in the short run (at least).

### 2.5.2. Changes over time in relative riskiness of energy retail

29. Notwithstanding any critique of the technical implementation of the work undertaken, the conclusion of Ofgem's consultation is that energy retail companies have the same systematic risk as the broader marketplace.

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<sup>16</sup> Ofgem Consultation, November 2022, para 5.129-5.130.

<sup>17</sup> Ofgem Consultation, November 2022, para 5.119-5.124.

<sup>18</sup> Ofgem Consultation, November 2022, para 5.127.

<sup>19</sup> Ofgem Consultation, November 2022, para 5.17-5.5.24.

30. This contradicts Ofgem's own consultant's findings. In Section 4, we will illustrate that systematic risk has increased relative to the broader market. In Section 5, we will discuss why this is might be expected given the significant energy market volatility which has existed over the past year. Betas vary through time. As circumstances in the market change, the cost of equity also changes. By not uprating beta, at least in the short-run, investors in this sector may be undercompensated relative to the risk they are now taking.
31. As CEPA notes,
- "While Ofgem has sought to introduce a number of changes to the DTC to reduce the exposure of energy retailers to these risks – including recently introducing shorter (three-month) periods for resetting the price cap, the 'Market Stabilisation Charge' (MSC) and other changes to DTC cost allowances (e.g., to address backwardation risks) – **these risks will not have been removed entirely.**"<sup>20</sup>*
32. To the extent that other measures are used to compensate investors for risk not compensated by the beta value, however, this has not been calculated as part of the consultation. It seems that Ofgem recognises this residual risk exists and may have increased. In fact, Ofgem has introduced measures (such as the Market Stabilisation Charge (MSC)) and revised some existing allowances (such as the wholesale price allowance through the introduction of the wholesale additional risk allowance) to account for the increased costs to suppliers from the energy crisis. This approach does not, however, compensate for the increased risk of facing those costs.
33. Further, Ofgem recognises in multiple places in the consultation that suppliers might be under, or overcompensated by different allowances within the cap, or that, adjusting elements of the EBIT allowances would "risk double counting". However, where a risk of double counting exists, a risk of not accounting for it also exists. In any case, a logical step would be for Ofgem to further explore, through detailed and holistic accounting, the interaction between the measures it has introduced.

### 3. THE CMA 2016 DETERMINATION

#### 3.1. The choice to use CAPM was a matter of judgement

34. The initial choice of using CAPM by the CMA was, in part, led by its own 2013 guidelines for investigations but also the outcome of its own judgement,
- "The [Competition Commission] will generally look to the capital asset pricing model (CAPM) when considering the cost of capital, since this is a widely understood technique with strong theoretical foundations. **However, the CC will have regard to alternative models where appropriate.**"<sup>21</sup>*
35. The main assumptions underlying CAPM are that:<sup>22</sup>

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20 CEPA Report, p. 24. Emphasis added by CRA.

21 Competition Commission, Guidelines for market investigations, April 2013, Annex A, para 16, p. 90. Emphasis added by CRA.

22 Elbannan, M., 2014, "The Capital Asset Pricing Model: An overview of the theory". See also Association of Chartered Certified Accountants, "theory, advantages, and disadvantages". <https://www.accaglobal.com/gb/en/student/exam-support-resources/fundamentals-exams-study-resources/f9/technical-articles/CAPM-theory.html>.

- All investors are risk-averse, efficient and wish to maximise their own utility;
  - Investors have access to perfect information and a single period transaction horizon is assumed;
  - There is unlimited capital for investors to borrow and lend at the risk-free rate of return;
  - Investments are diversified such that unsystematic risk has been diversified;
  - There are no taxes, inflation, or transaction costs; and
  - Risk and return are linearly related.
36. Many of these assumptions have been challenged and can appear unrealistic in the context of the retail utility market in the UK. Broadly speaking, the biggest implication of relevance to the calculation of beta is that investors need only to be remunerated for the “systematic” risk their investment is exposed to because they are able to hedge “idiosyncratic” risks through a diversified portfolio. The CMA noted,
- “There can be significant volatility in the profits of a retail supply business due to weather-related demand fluctuations, government scheme costs and input price changes, we note that these would only have an effect on beta to the extent that the volatility is correlated with overall market returns. Neither volumetric risk arising from fluctuations in the weather, nor changes in government scheme costs, exhibit this correlation.”<sup>23</sup>*
37. We agree with Ofgem and the CMA that idiosyncratic risk should be excluded in the calculation of beta because that’s technically how the CAPM model works. To the extent that industry participants feel that idiosyncratic risk needs to be remunerated, and that may be fair, it should be done outside of the beta calculation. However, there is a broader question as to whether by choosing CAPM, the CMA and now Ofgem is, therefore, only allowing an appropriate return for investors who are able to hold diversified portfolios.
38. With private firms, this assumption may not hold. The owner is often the only investor (or one of a few) and may have much of its capital invested in the business and so does not have an opportunity to diversify. In such circumstances, it can be argued that betas will understate the exposure to market risk. This applies to privately owned smaller retail utilities in the UK.
39. There are other approaches which can be used to estimate the cost of capital, but CAPM remains a popular approach adopted by many regulators, including the CMA and Ofgem in other regulatory determinations. It is not in the scope of this paper to challenge the use of CAPM. Rather, we point out that in its selection, the CMA and now Ofgem is making a judgement that the model is a fair – albeit stylised - version of real-world processes and that it can be effectively implemented. We consider this latter question next.

### 3.2. Lack of comparable data required triangulation

40. In calculating betas in 2016, the CMA reviewed evidence from only three retail energy company profiles. It found, however the,

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<sup>23</sup> CMA EMI 2016, Appendix 9.12: Cost of Capital to the CMA Energy Market Investigation, para 67, p. 25. See <https://assets.publishing.service.gov.uk/media/576bcc3c40f0b66bda0000b4/appendix-9-12-the-cost-of-capital-fr.pdf>.

*"Evidence collected on energy retailers' beta values to be sufficiently inconsistent to limit the reliance that we could place on these estimates. While we consider the evidence on Just Energy's beta to be relevant, we were concerned that this provided only one data point for our analysis. Therefore, we sought other evidence that could give us an indication of the likely asset beta of an energy retailer."<sup>24</sup>*

41. The beta estimated for Just Energy was between 0.9 and 1.2. Just Energy has subsequently entered insolvency proceedings<sup>25</sup>. Just Energy's bankruptcy followed a chain of events relating to a weather event in the State of Texas in 2021, leading to increased electricity demand and sustained high prices. In the latest reporting period of 2022, Just Energy reported a significant net loss driven by "unrealized mark to market losses on derivative financial instruments relate to the supply the Company has purchased to deliver in the future to existing customers at fixed contractual prices".<sup>26</sup> On the 20<sup>th</sup> December 2022, Just Energy (U.S.) Corporation became the new parent company of all Just Energy entities, and Just Energy announced that it was no longer a reporting issuer in Canada.<sup>27</sup>
42. The CMA reviewed EBIT margins for the six large energy firms for different customer classes<sup>28</sup> to assess volatility of earnings relative to the general business cycle and drew a conclusion that equity beta should be less than 1. The CMA used comparisons to other sectors to triangulate on an appropriate range which it thought to be lower. For example, the CMA considered, energy retail to be more risky (relative to the overall market) than groceries but less risky than high street retailers and airlines.
43. It is commonplace to use proxies in analysis like this when direct data is difficult to find. It is important to recognise, in doing so, a significant level of judgement is taken in both their selection and their interpretation.

### 3.3. Relative riskiness was a historical perspective

44. The CMA analysis on beta reflected a review of data from a historical period, 2007-2014. This was consistent with trying to estimate an overall customer detriment that might have existed in that period. It does not, however, mean that it is currently fit for the purpose of assessing the relationship between the energy retail segment and the broader economy.
45. Nowhere in its 2016 determination does the CMA state that the riskiness of any specific business sector to the broader economy or in comparison to any other sector will remain constant over time.

### 3.4. Implications for the current consultations

46. The problem faced by Ofgem is that it is applying an imperfect model of investment incentives for the retail energy market without the benefit of directly applicable data. The empirical observations gained from other sectors had to be triangulated by the CMA into a recommendation for retail energy companies based on the performance of retail energy companies at the time.

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24 CMA, 2016, p. Appendix 9.12, p. 25.

25 Just Energy Group Inc., Form 8-K, 09 March 2021, p. 4.

26 Just Energy Group Inc., Form 8-K, 29 November 2022, p. 5.

27 Just Energy Group Inc., Form 8-K, 19 December 2022, p. 5.

28 CMA 2016, p. Appendix 9.12, p. 26, Figure 7.

47. The standard, in our view, for making a change to the recommended beta range is not simply whether the empirical observations from other sectors have changed but also whether observed systematic risk of the retail energy sector has changed relative to those comparators and the broader economy. The lack of direct data available on pure play energy retail companies means that it is not possible to simply calculate an empirically based beta, and so the barrier is too high to find "sufficient empirical evidence to justify a deviation from the beta range established by the CMA".<sup>29</sup> The decision will require, by default, the application of judgement by the regulator. It may not be as analytically robust as Ofgem would ideally want, but judgement is the foundation on which the beta estimate has been based on since 2017.
48. The subsequent performance of pure play retail energy companies may suggest that the CMA's original determination for beta was an underestimate as it applied to the impact of systematic risk in future periods (given the number of suppliers who exited the market after 2018). In the following section, we will discuss our views on those changes.
49. Finally, there needs to be an extensive review of how investment in retail energy companies is treated for the purposes of estimating the cost of equity. The CMA did not in 2016 consider why there were no significant numbers of listed retail energy companies and what the implications of the predominantly private investment model were. For example;
- Would any of the retail energy companies in the GB market in 2016 have been able to list on the stock market even if they wanted to? If not, why not?
  - Are there features of the retail energy segment that make an investment proposition higher risk to investors relative to other types of listed companies (e.g., size and less robust balance sheets)?
  - Should ownership through listed stocks be treated as equivalent to ownership of private share capital (for example, being less liquidly traded has implications for the risk profile of a private company relative to holding a listed stock)? and
  - Are there features of private ownership that lower risk to investors?
50. Private ownership of pure play companies was a feature in 2016 and still is but the implications of this are not analysed or understood. A more extensive review is needed because there is, in fact, evidence that profitability and capitalisation levels of UK energy retailers led to a lowered ability to absorb shocks. If Ofgem continues to use the CAPM approach, it needs to account for this evidence in making a decision that this model provides for a reasonable interpretation of investor incentives as they apply purely to retail energy.

## 4. SYSTEMATIC RISK

### 4.1. Systematic risk faced by utilities is increased

51. Commodity pricing is a systematic risk faced by the broader economy and so not easily diversifiable. Cost of wholesale energy is the largest cost item to retail energy companies.<sup>30</sup>

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<sup>29</sup> Ofgem Consultation, November 2022, para 5.120.

<sup>30</sup> CMA EMI 2016, Final Report, p. 4.

To the extent commodity pricing risk is faced by retail energy companies, it needs to be reflected in the beta calculation.

52. CEPA, in its report, references a Bank of England Monetary Policy Report which described:

- The impact of energy prices on inflation; and
- The impact of energy prices on household incomes.<sup>31</sup>

53. CEPA concluded,

*"In the short-term at least, we consider these may be relevant factors for beta, as they may contribute, with a forward-looking view, to a perception of greater market risk and covariance of returns from GB energy retail and the wider market portfolio. This may provide some justification for considering that in the current retail energy market environment, the relative risk of investing in an energy retailer (i.e., relative to the market) has increased and may be higher than when the CMA undertook its analysis"*<sup>32</sup>

54. Ofgem has also recognised that

*"Higher wholesale price volatility may impact the systemic risk associated with an efficient supplier because it may not be possible for suppliers to perfectly hedge their exposures. Greater systemic risk could increase the financing cost of capital employed, increasing the EBIT margin required and the Return on Capital Employed (ROCE) that is commensurate with the risk borne. Under the current methodology this would have implications for the EBIT allowance."*<sup>33</sup>

55. Commodity pricing risk faced by retail energy companies has increased, both in terms of price level and volatility, over 2021 and 2022.<sup>34</sup> At the same time, the ability of those companies to effectively hedge that risk is also reduced.

56. Commodity pricing risk should be considered as systematic, for various reasons:

- **Firstly**, access to wholesale markets by retail energy companies has been frequently analysed in relation to competition issues in the UK energy market. It has been a consistent issue for pure play retail energy companies not least in part because it requires credit standing with wholesale trading partners that many companies found either difficult or costly to maintain;
- **Secondly**, we agree, in the round, that hedging can help reduce earnings volatility. Even in "normal market conditions", hedging, however, does not mean price-related risk is eliminated. If underlying load is uncertain and a company's ability to compete for customers is derived from its ability to procure wholesale energy at a lower cost than other utilities, hedging is actually an act of strategy and risk taking.

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31 CEPA Report, p.29.

32 CEPA Report, p.29.

33 Ofgem consultation, "Consultation on amending the methodology for setting the EBIT allowance", 26 August 2022, para 3.7, p. 19.

34 CEPA Report, p.28 and Figure 4.1., "gas and electricity markets have experienced significant (systematic) disruptions since mid-2020, with charts of wholesale gas prices (in p/therm) and electricity prices (£/MWh) between 2016 and 2022, showing a significant increase in prices and price volatility from mid-2020 onwards".

- For larger suppliers, the expected percentage variation in load will be lower and so it is possible to develop lower risk hedging strategies (for example by hedging only a portion of expected demand). For small utilities with high percentage variation in customers, locking in prices for those volumes is actually itself a substantive risk.
- For example, in a market with declining prices, a utility which hedges its purchased electricity against expected volumes and re-sells at a fixed price to customers faces the risk that it will lose customer volumes to competitors (assuming customers are able to exit) or fail to capture new customers it had assumed might switch due to its offer price. If that's the case, it faces a loss on its forward purchases. We observe in some utilities, consequently, that their hedging strategy can be influenced by their perception of what the hedging strategies of others might be – in effect trying to ensure their purchase costs are not significantly out of line with the market average. In the context of the current energy crisis and the DTC, the introduction of the Market Stabilisation Charge (“MSC”) and the Ban on Acquisition Only tariff (“BAT”) by Ofgem temporarily and partially mitigate that risk by encouraging “domestic suppliers to hedge demand in accordance with the price cap indexation”.<sup>35</sup> However, Ofgem recognises that these measures provide only for a “degree of protection”.<sup>36</sup>
- In other industries, companies may actively choose not to hedge because they believe their shareholders expect their earnings to vary with the commodity pricing cycle. We see variances in attitudes to hedging, for example, in airlines, metals and minerals, oil and gas companies. We see no reason why we should not expect to see variances in retail energy supply too in normal market circumstances.
- **Thirdly**, wholesale energy trading is, in effect, a fundamental competitive strategy of retail energy supply. A feature of the DTC has been to embed certain hedging behaviours in order to ensure procurement costs are consistent with the level of the cap. Going forward in a market, where perhaps prices have reverted to more “normal” levels, it seems reasonable to assume that companies may consider different hedging strategies again as an area of strategic advantage; and
- **Finally**, even in normal market circumstances, access to wholesale trading markets can be difficult and expensive for utilities. They must have in place sufficient trading relationships in the different marketplaces (over-the-counter and exchange-based). For many companies this can require the provision of cash collateral, bank (and parent company) guarantees. Access will be limited by the lines of credit offered by wholesale traders who agree to be counterparties.
- These credit lines will depend on the robustness of the balance sheets of the retail utilities, which are understood to have been weak. Oxera, in a report commissioned by Ofgem, noted issues in liquidity and working capital in many firms which failed.<sup>37</sup> It also highlighted that for a selection of medium and large non-legacy retail energy companies, EBIT margins were largely negative between 2016 and 2020.<sup>38</sup>

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35 Ofgem consultation, “Extending the MSC and BAT beyond 31 March 2023”, p. 5.

36 Ofgem consultation, “Extending the MSC and BAT beyond 31 March 2023”, p. 5.

37 Oxera 2022, “Review of Ofgem's regulation of the energy supply market”, p. 28.

38 Oxera, 2022, “Review of Ofgem's regulation of the energy supply market”, Figure 3.15, p. 55.

57. In hindsight, the decision of many firms not to hedge (or their inability to) caused losses as the price of energy increased. However, we must also consider not just the risk of price increases but also decreases. Hence, in normal market circumstances we would continue to assume, therefore, that retail utilities face the systematic risk from commodity prices and that an efficient retail utility may not be one that has fully eliminated wholesale price risk.
58. We are not, however, currently in normal market conditions and it is difficult to predict when normal market conditions will (if ever) return. Higher and more volatile commodity prices mean that it is even more difficult to hedge:
- Credit lines for wholesale over-the-counter trading are defined frequently in absolute terms. For example, parties might agree to trade such that their exposure is limited to some £ level. As prices have increased those limits have been quickly exhausted. The volatility in the market place, we understand, has reduced the appetite for parties to increase their credit limits with each other. Even where adjustments to trading arrangements have been pursued, there have been increased demands for provision of collateral and/or for cash margining.
  - Collateral required from trading on exchanges depends on both price level and volatility of prices. Exchanges seek to ensure that they have sufficient collateral on hand to cover worst case losses by their trading participants. Prices are, currently, higher and more volatile. This has led to an increase in the amount of collateral called on by exchanges.
  - In addition, for exchanges and some over-the-counter trading, where margining is required, significant movements of cash back and forth between counterparties can be required. This means that retail energy companies must hold sufficient cash balances to cover these movements. In moments of greater volatility this can be challenging.
  - Market liquidity is also reduced<sup>39</sup> making it more difficult to trade even if the means to trade are available.
59. These problems have been widely recognised and governments in various countries have acted to provide liquidity for provision of collateral.

#### **4.2. Retail energy companies may have become relatively riskier**

60. At the time of the CMA determination, the UK energy retail market conditions were significantly different. The market was characterised by growing competition, with low barriers to entry, and high levels of innovation. In fact, in the 10 years to 2016, the number of energy retail companies increased from 9 to 42.<sup>40</sup>
61. By mid-2018, the trend reversed, and the share of supplier exits increased significantly. Although in the period 2018-2021 we might ascribe some of the exits as being the normal

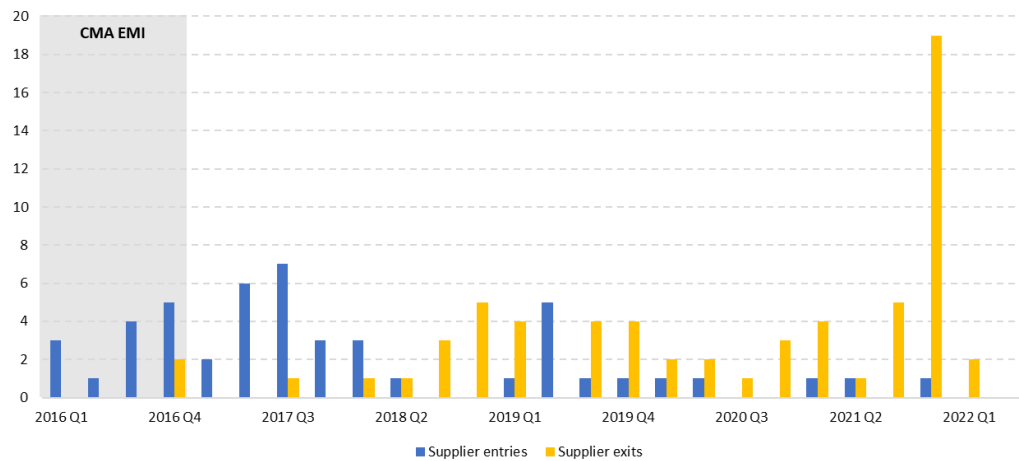
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<sup>39</sup> Ofgem wholesale market indicators. See Ofgem's analysis of "electricity trading volumes and churn ratio by month and platform" which they conclude show that "The average churn rate in Q3 2022 was 2.4 which is the same as the previous quarter. Also, it is 0.3 points lower than in Q3 2021: indicating liquidity has remained the same quarter-on-quarter but decreased year-on-year. This appears to be part of a longer-term trend of falling liquidity in the UK power market." <https://www.ofgem.gov.uk/energy-data-and-research/data-portal/wholesale-market-indicators>. See also <https://npowerbusinesssolutions.com/resources/energy-market-liquidity>.

<sup>40</sup> See Ofgem retail market indicators: Number of active domestic suppliers. Note this figure represents retailers of both gas and electricity.

churn in the marketplace (with customer numbers affected being small) this cannot be said of the period 2021 onwards. Since the start of 2021, 31 suppliers have exited the market, 19 of which since the last quarter of 2021.<sup>41</sup> All 19 failed suppliers were pure play suppliers.

**Figure 1: UK Energy Retailers entries and exits<sup>42</sup>**



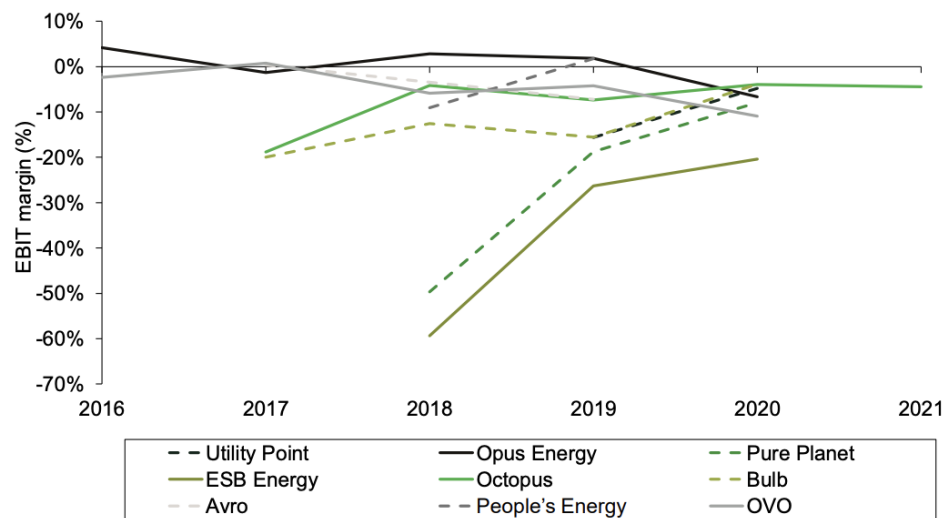
62. It is difficult, considering this industry performance, to argue that, from a standpoint today, an investment in retail energy supply has the same level of riskiness as it was in 2016. The current commodity price shocks have highlighted a core fact about retail energy, its success and/or failure is greatly dependent on its capability to maintain risk capital sufficient to withstand wholesale commodity market shocks. Even if one were to argue (which we do not) that the sum of government intervention has corrected for these issues, it is impossible to avoid the observable fact that no new pure play retail energy companies have been able to enter the GB market in 2022.
63. Oxera, in its report, illustrates that medium to large non-legacy retail energy companies in the period after the CMA review operated with negative EBIT margins.

<sup>41</sup> Ofgem retail market indicators.

<sup>42</sup> Ofgem retail market indicators.

**Figure 2: Reproduced EBIT Margins from Oxera Report<sup>43</sup>**

**Figure 3.15 Profitability for large and medium non-legacy suppliers, combined electricity and gas 2015–21**

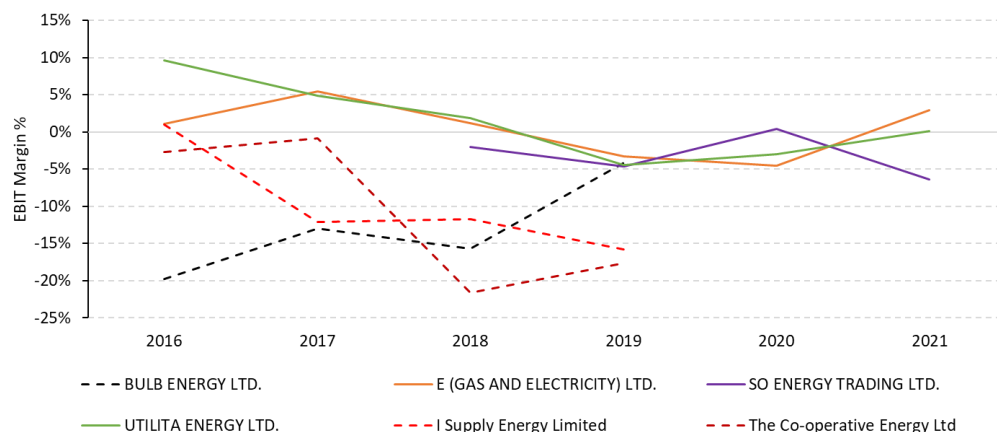


Note: The supply margins shown in this chart are the ratio of a company's EBIT to its total revenues. A supplier's margin is calculated by subtracting from a company's total revenue its total direct costs, total indirect costs (such as operating costs), depreciation and amortisation. Small companies are reported in appendix A5.5. Note that the number for Opus Energy for FY2016 is based on a nine-month figure. The value for Pure Planet for FY2018 is based on a six-month period. The value for Avro for FY2019 is based on a sum of FY2018+HY2019 figures.

Source: Oxera analysis based on companies' annual statements.

64. We have also reviewed EBIT margins for some smaller companies for which data in Companies House was available. It also shows demonstrably limited profitability.

**Figure 3: Profitability of selected pure play energy suppliers from 2016-21<sup>44</sup>**



65. Figure 3 shows, in the period before 2021, smaller retail energy companies' profits were already operating with limited (and often negative) margins, affecting their ability to build sufficient risk capital to withstand future market shocks. Oxera's and our analysis of suppliers' profitability suggests, in our view, that the CMA may have underestimated the

<sup>43</sup> Oxera 2022, "Review of Ofgem's regulation of the energy supply market", figure 3.15, p. 55.

<sup>44</sup> CRA analysis of publicly available data. Dotted lines added for ease of reading the figure and do not have particular meaning.

level of risk in 2016 for the sector. The current price rises may have simply exposed a feature of the market that was not yet fully appreciated in the subsequent reform of the retail energy market.

66. It is also necessary to consider whether retail energy companies have become riskier relative to the broader economy:

- The first, and simplest comparison to make, is a review of the comparators – used by the CMA in 2016. None of the comparators used in the groceries, high street retail, or airlines peer groups exited the market. The only retail energy company considered as a reasonable comparison by the CMA was Just Energy. It has subsequently sought bankruptcy protection alleged to be caused by price shocks in the Texas wholesale power market.<sup>45</sup>
- Secondly, looking more broadly at the UK retail energy market, suppliers' exits have affected just over 4 million customers since the end of 2021.<sup>46</sup> On average, the number of exits in the UK energy retail sector increased by 150% between the period 2016-2019, and the period 2020-2022. By comparison, company insolvencies in England and Wales have, on average, decreased over the same period.<sup>47</sup>

67. While the decrease in average company insolvency is likely to be due, in part, to government support during the coronavirus crisis, the Office for National Statistics notes that, in 2022, insolvencies reached their highest level since 2009. Further, in October 2022, 23% of large businesses and 27% of small businesses indicated that higher energy prices were the main concern for the business.<sup>48</sup>

## 5. BETAS ARE NOT CONSTANT

68. There is significant evidence in the literature that betas are time varying.<sup>49</sup> This means that the estimation period for beta needs to be considered in light of the rate of change that can be observed in beta. The use of rolling estimation periods, as used by CEPA, is an appropriate approach to managing this issue and CEPA considered the impact on its results from different estimation windows and averaging periods.<sup>50</sup>

69. The problem, however, with estimating beta based on historical returns is that the current crisis is current, and the estimation windows considered historical periods which were

45 S&P Global, "Insolvent Just Energy seeks bankruptcy protection over Texas turmoil", March 2021.

46 Forbes <https://www.forbes.com/uk/advisor/energy/failed-uk-energy-suppliers-update/>.

47 Office for National Statistics  
<https://www.ons.gov.uk/businessindustryandtrade/changestobusiness/bankruptcyinsolvency/articles/risingbusinessinsolvenciesandhighenergyprices/2022-10-07#:~:text=For%20instance%2C%20they%20accounted%20for,2020%20and%20Quarter%20%202022.>

48 Office for National Statistics  
[ons.gov.uk/businessindustryandtrade/changestobusiness/bankruptcyinsolvency/articles/risingbusinessinsolvenciesandhighenergyprices/2022-10-07](https://www.ons.gov.uk/businessindustryandtrade/changestobusiness/bankruptcyinsolvency/articles/risingbusinessinsolvenciesandhighenergyprices/2022-10-07).

49 See Donald Robertson, "Estimating  $\beta$ ", 2018; See also references to those studies as reflected in Slimane, B., Bellalah, M., and Rjiba, H., 2017, "Time-varying beta during the 2008 financial crisis – evidence from North America and Western Europe".

50 CEPA Report, Appendix C.

calmer by comparison. Expectations on risk are currently being formed and may be different from those in historical observed periods.

70. Furthermore, a lack of data availability makes a comparison over time difficult in the retail energy sector. Large energy companies and the vertically integrated utilities, reviewed as part of the CMA's and Ofgem's analyses, may have a fundamentally different risk exposure to the current crisis as compared to purely retail energy companies. The proposed imposition of price caps and windfall taxes on generating companies across Europe illustrate that different exposure – i.e., not all companies have lost out as a result of the current price increase. Companies with upstream components have gained, whilst downstream companies have lost out. CEPA referred specifically to Centrica in its cross-checks because it considered Centrica as becoming more like a pure supply and trading company, thus making it more comparable (even if still less risky).

71. However, if we take Centrica – being the most UK-oriented of the large energy suppliers – as an anchor, CEPA estimated its asset beta in the 18 months since mid-2021 to have risen from approximately 0.6 to 0.8 (a 33% increase). CEPA notes,

*“As Centrica has become more of a pure play supply business, we would expect its beta to become increasingly influenced by operating income from supply and trading activities, and while it is challenging to decompose the effect, this might suggest that investing in retail energy is currently considered riskier than normal.”<sup>51</sup>*

72. We note CEPA does raise some issues about the impact of changes in Centrica's gearing upon its asset beta, but the impact was not severe enough to remove Centrica from consideration.

73. CEPA excluded data from Good Energy, a direct retail energy comparator because its stock was considered to be insufficiently liquid to allow for a robust calculation of beta. It is certainly true that Good Energy is less liquidly traded than Centrica. However, illiquidity of trading is not always sufficient reason to reject the use of the stock in calculation of beta.

74. Damodaran, an academic and valuation specialist – and frequent contributor on CAPM issues, wrote,

*“Assets do not trade on a continuous basis, and when there is non-trading on the asset, the beta estimated can be affected. In particular, non-trading on an asset during a return period can reduce the measured correlation with the market index, and consequently the beta estimate.”<sup>52</sup>*

75. Lack of liquidity can provide a similar effect, with small volumes not affecting the price. A method, proposed by Damodaran, is to change the frequency of observation as,

*“This non-trading problem can be reduced in one of two ways. One way is to use longer return intervals; quarterly and annual returns result in too few observations in the regression, but **monthly returns should provide sufficient observations** for firms listed for more than three years. **Betas estimated using daily or even weekly returns are likely to have a significant bias due to the non-trading problem**, with illiquid firms reporting lower betas than they really should have and liquid firms reporting higher betas than is justified.”<sup>53</sup>*

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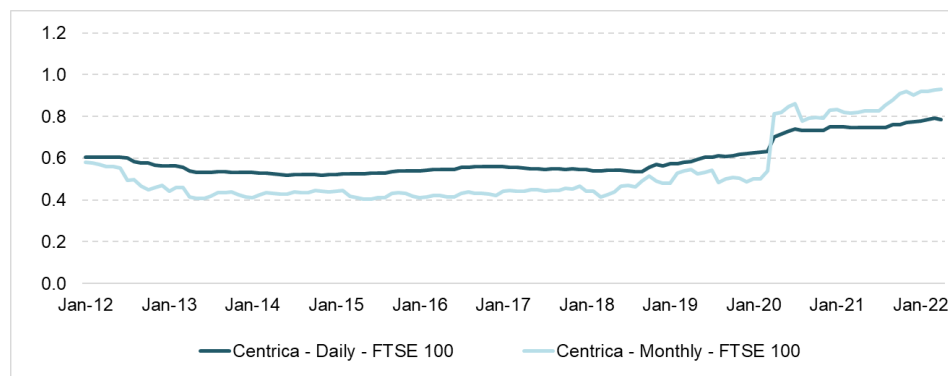
51 CEPA Report, Appendix C, p. 34.

52 Aswath Damodaran, NYU Stern, Estimating Risk Parameters, p.10/31.

53 Aswath Damodaran, NYU Stern, Estimating Risk Parameters, p.10-11/31. Emphasis added by CRA.

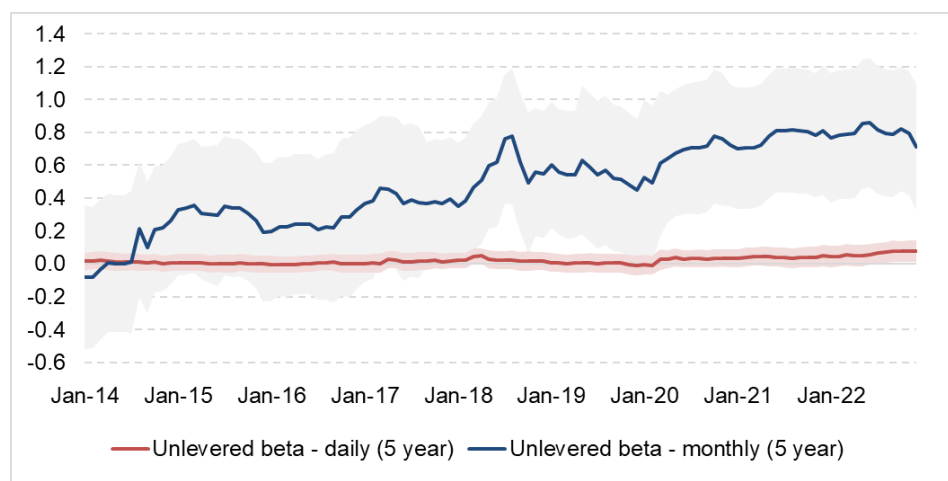
76. As an aside, we note that CEPA has produced beta estimates using daily observations whilst the CMA used monthly observations in the calculation. The chart below, using data from Capital IQ, shows the impact on the 10-year rolling average beta for Centrica.

**Figure 4: Centrica Asset Beta variation with daily and monthly periodicity<sup>54</sup>**



77. We note that the analysis of the trend in the beta estimation shows that this choice can make a difference to results but, in this case, that difference varies upwards and downwards through time. However, the trend of increasing beta in 2021 onwards for Centrica is robust to the difference in method. In fact, between 2016 and 2022, Centrica's asset beta increased by 37% when calculated using daily frequency data. Since 2019 alone, we find that Centrica's asset beta increased by 33%. Our analysis of daily frequency data is broadly consistent with the trend in CEPA's analysis.
78. Daily and monthly derived observations for Good Energy (as a correction for illiquidity) are shown in the chart below, alongside confidence intervals which we consider helpful given the stock's lower liquidity:

**Figure 5: Good Energy Asset Beta with daily and monthly periodicity<sup>55</sup>**



<sup>54</sup> CRA analysis using Bloomberg data. Underlying assumptions have been checked against CEPA's available assumptions to allow for trend comparison. Local index used FTSE 100.

<sup>55</sup> For this analysis (accounting for standard errors), we have relied on levered beta information from S&P Capital IQ. We have run comparison analyses between S&P Capital IQ and Bloomberg and found that data follow consistent trends. Rolling unlevered beta, 5-year estimation period with daily periodicity given Good Energy's limited trading history. Local Index considered FTSE 100.

79. In this case, we find that using monthly or daily frequency data leads to significant differences in the level of the results, likely due to the stock's low liquidity. As set out above, Damodaran finds that using monthly data can help overcome such an issue. We follow this approach in this analysis and find that there is at least some evidence that Good Energy's asset beta has also increased since 2016, similarly to Centrica's asset beta shown in **Figure 4**. In fact, our analysis shows that Good Energy's asset beta increased by 46% since 2019, and by 227% since 2016.
80. We conclude, there is some quantitative evidence that the perceived relative risk of retail energy companies has increased in the last two years, as shown by the Centrica and Good Energy data.

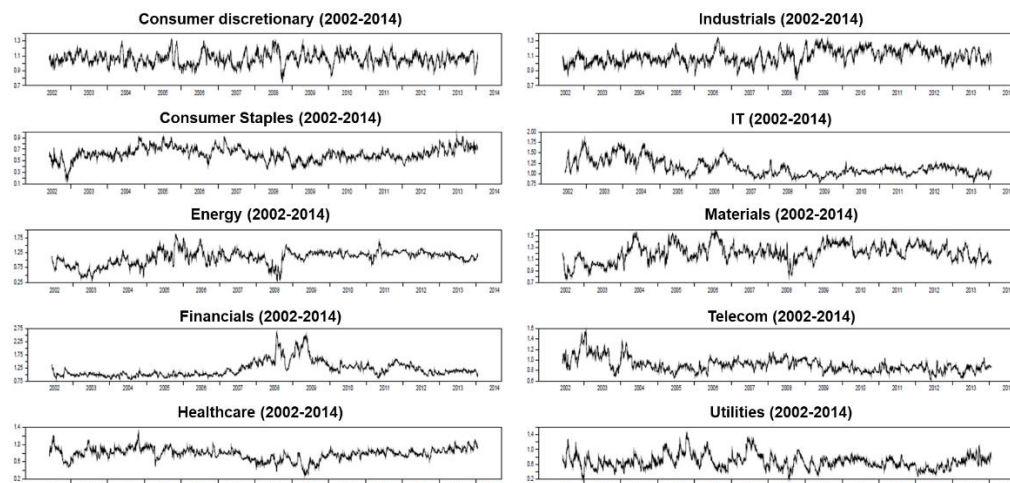
### 5.1. An analogy to the financial crisis

81. We consider it important to consider what the current crisis might imply about perceived risk to investors today. Our *a priori* assumption would be that such a turn of events would increase the perceived relative systematic riskiness of the retail energy space. We draw some analogies with the experience gained from the financial crisis.
82. The financial crisis reflected both a change in underlying macro-economic conditions (e.g., falling house prices) and was accentuated by specific arrangements and behaviours in the financial sectors. This is a reasonable analogy to the current crisis in energy markets.
83. Several academic studies have concluded that the financial crisis has led to variation in the time varying beta in the banking sector. For example, Adam et al.<sup>56</sup> analyses time-varying betas of the banking sector in several advanced countries, and find that:
- "Systematic risk of the sectors varies considerably over time";*
- "Country specific and global events affect the perceived systematic risk"; and*
- "The US banking [equity] beta started to rise as soon as in July 2006 from levels close to 0.6, growing steadily to 1.5 two years later, when the financial crises fully developed".*
84. Separately, Hasnaoui et al. estimated the impact on systematic risk reflected in the beta calculation of various sectors over time and this is reproduced in the figure below.

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<sup>56</sup> Adam, T., Benecká, S., and Jánky, I., 2012, "Time-Varying Betas of Banking Sectors".

**Figure 6: Time Varying Betas - Reproduced from Hasnaoui et al.<sup>57</sup>**



85. As illustrated in Figure 6 above, through the period of the financial crisis, Hasnaoui et al. support the conclusions of Adam et al. and find that financial stocks exhibited an increase in equity beta of around 150% in the period 2006 to 2008. Further, they find that it took around 6 years (to the end of 2014) for the equity beta to subside gradually, (though not completely returning to levels seen before the crisis). As might be expected, the financial sector has the strongest relative change in beta at the time of the crisis.
86. While the above studies were assessing the evolution of equity betas, a similar increasing trend has been found in the asset beta of the banking sector following from the crisis. Beltrame et al. found that, between 2008 and 2009, the asset beta of European banks increased from 0.1 to 0.4.<sup>58</sup>
87. We cannot, clearly, assume by analogy that the beta for retail energy companies will have more than doubled. We can say, however, that the energy price shock is fundamental to the economics of retail energy in the same way that falling house prices were fundamental to unwinding of the economics of many banks. We imply, therefore, that risk to retail energy companies is also increased.
88. Further, Slimane et al. found in relation to the financial crisis that,  
*“The risk variance over time is closely related to past events. It is in this sense that historical volatility could be an indicator of the evolution of the future risk of companies in the market.”*<sup>59</sup>
89. In other words, the energy crisis today might be expected to continue to influence expectations about risk in the future. In the financial sectors, regulatory intervention reduced risk, but it did not subside instantly.

<sup>57</sup> Hasnaoui, H., Fatnassi, I., 2014, “Time-Varying Beta And The Subprime Financial Crisis: Evidence From U.S. Industrial Sectors”, p. 5.

<sup>58</sup> Beltrame, F., Caselli, S., Previtali, D., 2018, “Leverage, cost of capital and bank valuation”, table 2, p. 15.

<sup>59</sup> Slimane, B., Bellalah, M., and Rjiba, H., 2017, “Time-varying beta during the 2008 financial crisis – evidence from North America and Western Europe”, p. 16.

90. Conversely, the absence of certain risks in the past may have led to underestimation of risk in the future – i.e., unobserved risk might be underestimated. Now identified it may be embedded into investor expectations for some time.
91. A European Central Bank working paper highlights this idea from the financial crisis. It found that pre-financial crisis, there appeared to be limited understanding, or concern, for systematic risk. In particular, the authors state that, in some instances, the pre-crisis increases in stock market value of banks could have been explained by a “hidden” beta. The paper comments,
- “The increased complexity and greater international scope of the banking business in the years preceding the crisis made it more difficult for investors to separate financial institutions generating high alpha [implying value created by management] from those with just a high but “hidden” beta.”*<sup>60</sup>
92. We have discussed, above, our view that the full risk to energy retail may also have been underappreciated before the current crisis. It is possible that the current crisis in retail energy will not be fully discounted by investors for some time.

## 5.2. Implications for the current consultation

93. The reason why CEPA performed a variety of cross-checks on Centrica was because it allowed to it to test whether the CAPM approach was providing reasonable results given what might be expected.
94. We have, in this section, shown that systematic risk of the retail energy segment has increased, drawing for example on evidence from Centrica and Good Energy to evaluate if any recent trend in beta can be observed. There is an observable trend in the data. Correcting for issues of illiquidity we have shown there is evidence in the Good Energy data to also indicate an upward trend in beta.
95. There is a risk that by holding the beta of retail energy companies to the same level as observed in 2016 that Ofgem is, in fact, failing to allow for investors to recover for higher levels of systematic risk that exist today.
96. There are two scenarios to consider:
- If the rise in price-driven systematic risk is ephemeral, then the approach taken risks under-compensating investors temporarily.
  - If the rise in risk gradually subsides or never fully returns to longer-term historical levels, then investors will be systematically under-rewarded.
97. At the very least, if Ofgem allows even for the possibility that risk faced by retail utilities is temporarily elevated then it should plan for a frequent re-set of the EBIT allowance to allow for current risk to be properly captured in future periods of calculation.
98. If it is argued that all the increase in systematic risk is in fact compensated for in other measures taken within the DTC determination (or elsewhere) then this needs to be properly accounted. The current consultation has no evidence in that regard. In reality, the measures introduced, and adjustments made, by Ofgem as a response to the energy crisis may not fully compensate for the additional risk faced by supplier in that:

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60 European Central Bank paper, p. 29. <https://www.ecb.europa.eu/pub/pdf/scpwps/ecbwp1394.pdf>.

- The measures (such as the MSC, the BAT, and the wholesale additional risk allowance) are all temporary by nature. However, and as discussed above, the systematic price risk to retail suppliers may not be a short-term issue, and a “plausible long-term estimate of beta”<sup>61</sup> should ideally reflect such risk;
- Ofgem relies on data submitted by the larger suppliers only (those who are required to submit information as part of their licensing requirements). In fact, we note that in coming to a decision for setting the wholesale risk allowance, Ofgem decided that a submission by a small supplier was “reviewed and considered” but “determined that this model does not represent evidence which may inform the outcome of our decision”. However, submissions from small and medium suppliers may, however, provide for valuable insights into the operations and performance of a pure play supplier;
- The additional wholesale risk allowance introduced by Ofgem aims at compensating retailers for increased efficient costs. It does not, however, compensate market players for the increased risk from wholesale price volatility. In fact, shaping and imbalance costs are a function of players’ hedging strategy. While some players may in fact have successfully hedged their position, it does not follow that they did not face increased risk of facing such costs.

## 6. CONCLUSIONS

99. We would support CEPA’s conclusions in respect to their finding that systematic risk to retail energy companies has, at least, temporarily increased. A key element in this regard, was the use of Centrica as an anchor to make this analysis. If its beta has risen to a level (as CEPA suggest) in the range of the proposed retail energy beta, then the range of 0.7-0.8 cannot hold. Centrica still retains non-retail operations and benefits from diversification.
100. Our own review of current market conditions and the impact of a systematic risk such as commodity prices upon the UK retail energy sector supports this. We find that there is at least some evidence the risk is increased and that the retail energy sector may have become riskier relative to the overall economy. In fact, we find that, since 2016, the asset beta of Centrica and Good Energy increased by 37% and 227% respectively.
101. Given the scale of the current energy crisis, its impact on the wider economy, and the direct involvement of retail energy companies, this seems an intuitively logical result. Given CEPA’s empirical analysis of other sectors and its cross-checks with other market evidence, their rational that retail energy is more on par with airlines seems logical to us (suggesting a short-term beta of 1-1.2) as this is in line with about a one third increase in asset beta observed for Centrica since 2019.
102. Further, the financial crisis of 2008 provides for a good analogy to assess the directional impact of the current energy crisis on systematic risk in that, it similarly reflected both a change in underlying macro-economic conditions and was accentuated by specific arrangements and behaviours. The historical nature of the financial crisis has allowed for a body of academic literature to develop on this topic, showing that the crisis, in fact, led to a significant increase in systematic risk, with studies finding evidence of increased asset

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61 Ofgem Consultation, November 2022, para 5.108.

betas, and a 150% increase in the financial sector<sup>62</sup> equity beta because of the financial crisis.

103. The use of the CAPM requires significant amounts of judgement in light of both weaknesses in the model's representation of real-world processes and, particularly, the lack of directly relevant data for listed retail energy companies. Given this it seems important to challenge whether the model – as implemented – is producing a reasonable result given real world observations (as CEPA did).
104. Unfortunately, the analytical difficulties of applying CAPM mean it is also difficult to definitively counter its results without further triangulation and qualitative judgement, by ruling out CEPA's triangulation of different analyses, Ofgem – in our view – is implicitly applying a lower standard of proof to accepting the results than it is to rejecting the results of CAPM.
105. One might take the view that what is really required is a long run perspective on risk and that setting an EBIT allowance around that provides a certain amount of stability. However, even if that is desirable it means that there is a chance that investors will be under compensated for the risk being taken currently. This is also positive reasoning for frequent resetting of the allowance – so as not to overpay in the future once risk is subsided or otherwise compensated.
106. Ofgem is correct that idiosyncratic risk should not be incorporated into the calculation of beta under the chosen model (CAPM). It may be right that this risk ought to be compensated in another manner. In our view, this reflects the weak foundations of the approach. If the concept of a diversified investor is inapplicable to pure play retail energy companies, then there should be discussion on how such idiosyncratic risk is or is not compensated for in other elements of the DTC. The beta value should not be “fixed” to cover what it is not intended to represent.

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<sup>62</sup> See Section 5.1.