

Supply of road fuel in the United Kingdom market study Initial update report 6 December 2022

Executive summary

1. On 11 June 2022 the then-Secretary of State for Business, Energy and Industrial Strategy (the Business Secretary) wrote to the CMA requesting that it carry out an urgent review of the fuel market, as well as a longer-term market study into whether the retail fuel market has adversely affected consumer interests. He asked to receive the initial report by 7 July 2022.
2. Alongside the publication of our Urgent Review of the Road Fuel market on 8 July 2022, we launched a market study to gain a broader and deeper understanding of the market. This would allow us to use our formal information gathering powers to consider developments in the market over a longer timescale, including drivers of recent spikes in the “refining spread”, the functioning of the fuel wholesaling sector and certain aspects of the retailing sector.
3. In our Urgent Review we found the following:
 - **Prices:** We noted increased volatility, including temporary historic peaks, in retail prices for both petrol and diesel in recent months. These were accompanied by volatility in key components of pump price: crude oil, refining spreads and retail spreads;
 - **Refining:** We found a growing gap between the price of crude oil entering refineries and the wholesale price of petrol and diesel leaving them (the “refining spread”) and said our market study would investigate why refining spreads were so high and what, if anything, ought to be done to bring them back down;
 - **Wholesale:** We did not investigate the independent wholesale segment of the supply chain, but committed to do so during our market study; and,
 - **Retail:** We found no strong indication that rising retailer spreads had driven the significant rise in pump prices seen during the preceding twelve months, and we found that the cut in fuel duty had been passed

on. However, we committed to examine the retail sector further in our market study, with a particular focus on the relationship between wholesale and retail fuel prices, factors driving local and regional variations in prices, and the role played by major supermarkets in the road fuel retail sector.

4. At the launch of our market study we proposed to publish an update in Autumn 2022. We are now publishing this initial update report to provide an overview of the work we have carried out so far, set out the emerging picture that we are seeing in the market, and invite views from industry participants and other interested parties.
5. While our analysis is not yet complete, we are able to set out what work we have done and what we have observed so far:
 - **Prices:** Since we started our market study petrol and diesel prices have come off these peaks, though they have recently begun to increase again, with diesel prices in particular coming close to the previous peak, and an increased gap opening between petrol and diesel prices.
 - **Refining:** refining spreads hit a historic peak in the first half of 2022, but this episode was short-lived and driven by global factors. However, we have recently seen refining spreads increasing again, with those for diesel hitting a new high of 35ppl in October. Over the medium term, UK refiners have not earned profits at levels that would give us cause for concern. At this stage, our preliminary view is that refiners have earned higher profits than usual in 2022, but they had made lower than usual, or even negative, profits during 2020 and 2021. Taking these impacts together, over the period since 2020 refiners have earned either low or negative margins; in effect, the margin spike in 2022 has done no more than even out the margin troughs in 2020 and 2021.

As a result, refiners have not made excessive profits over the past five years. While refining margins may continue to be subject to volatility due to global factors, including periods of higher profitability, and this is likely to result in price volatility at the pump, this appears to stem from our exposure to global factors, in particular the historical reliance of North West Europe on Russia for diesel imports, rather than a reduction in UK refining competition. While we do not, therefore, believe that this volatility can be mitigated by measures to improve directly the functioning of the UK market, the impact of higher price volatility and periods of high pump prices on motorists is significant. We will consider wider policy options for mitigating these effects in the next phase of our study.

- **Wholesale:** Our investigation of the wholesaling sector, which buys fuel from domestic and overseas refiners to sell on to retailers, is at an early stage. We are working to understand wholesaler margins (taking into account the margin earned on fuel cards and biofuels). We have found that the duration of wholesale contracts is typically up to five years and that this can facilitate recovery of upfront rebranding costs associated with retailers switching brands. We have not so far seen specific evidence of suppliers enforcing volume commitments strictly (eg when demand fell drastically during the covid lockdowns) with adverse effects on competition or consumers, but we welcome any further evidence from stakeholders on this issue. We will analyse margins in the wholesaling sector in the next phase of our study.

- **Retail:** During the market study we have expanded our consideration of the retail sector from the Urgent Review. This has included extending the period we are looking at back to 2015 alongside obtaining company-level financial data. Our current position on the three areas we proposed to consider is set out below:
 - **The relationship between wholesale and retail prices:** We see some reasons to suspect that retail margins have increased over the past five years. Retailer fuel margins (which do not take into account non-fuel costs) have increased year-on-year over the period. Based on current petrol and diesel prices the margin increases we have seen over this period would equate to approximately 2-3ppl on diesel and 3-4ppl on petrol. We need to investigate further to understand to what extent these may be reflective of higher operating costs that are not included in fuel margins, temporary volatility in the global market or a longer-term weakening of competition. We also see evidence of changes in pricing behaviour, with some generalised “rocket and feather pricing” emerging in 2022. This coincided with a period of extreme volatility in wholesale prices, so we need to do further work to understand what caused this and whether it is going to persist.

 - **Local and regional variation in price:** We also observe pricing differentials between sites in different geographical locations. With the exception of Northern Ireland, differences in average price by region are small, as is the difference in average price of urban vs rural areas. In general, the highest-priced PFSs (petrol filling stations) have fewer competitors, and fewer of these are supermarkets, of which fewer are Asda sites. Motorway PFSs are significantly more expensive than non-motorway sites, but price variation between motorway PFSs is relatively small.

- **The role played by supermarkets:** Our analysis shows that supermarkets continue to price below non-supermarkets, and the presence of a supermarket is associated with lower prices at other PFSs in the area. However, as noted above, we do observe that supermarket fuel margins have been rising over the past five years; while still below those of non-supermarkets, the gap has narrowed. We will continue to investigate this in the next phase of the study, as well as considering the impact of recent supermarket merger activity on competition in the road fuel market.
6. We are inviting feedback on our initial analysis and reasoning set out in this report. We will take this into account as we develop our initial findings report to be published in Spring, followed by our final report in advance of our statutory deadline of 7 July 2023.

Background

7. Petrol and diesel are produced by refining crude oil. This can take place domestically, at one of the UK's six major refineries, or overseas, with refined fuel being imported into the UK. Retailers purchase refined fuel either directly from refiners or importers, or via independent wholesalers. Retailers then sell petrol and diesel directly to motorists, overwhelmingly at one of the UK's more than 8,300 PFSs.
8. On 11 June 2022 the Business Secretary wrote to the CMA requesting that we carry out an urgent review into whether the retail fuel market had adversely affected consumer interests. The Business Secretary asked that we consider the health of competition in the market, geographical factors, including localised competition, and any further steps that the government or the CMA could take to strengthen competition, or to increase the transparency that consumers have over prices. He also asked that we give particular consideration to whether the government's cut to fuel duty of 5 pence per litre had been passed on to consumers, geographical factors, and whether there were steps the government could take to increase consumer price visibility in the market. In addition, he requested that we launch a longer-term market study.
9. Increases in the cost of living have been of great concern for the public in recent months, with the Consumer Price Index rising by 9.6% in the 12 months to October 2022. According to the Office for National Statistics, 91% of adults in Great Britain reported an increase in their cost of living compared to a year ago. In this context, the increase in fuel prices has been a clear source of concern for motorists. On 8 July 2022 the CMA published its Urgent

Review and announced that it was launching a market study to consider issues of potential concern at different levels in the fuel supply chain.

10. Our Urgent Review considered the price of fuel over the preceding year, finding that:

- The main drivers of increased road fuel prices were the rising cost of crude oil, and a growing gap between the crude oil price and the benchmarked wholesale price of petrol and diesel – the so-called ‘refining spread’.
- The refining spread more than tripled over the year to July 2022, growing from 10p to nearly 35p per litre.
- Over the same period, the ‘retail spread’ (the difference between the benchmark wholesale price and the price charged to motorists) fluctuated but remained about 10p per litre on average.
- On the whole the fuel duty cut appeared to have been implemented, with the largest fuel retailers doing so immediately and others more gradually.
- There are significant differences in price between many rural and urban areas.

11. Given the elevated price of fuel (which hit record levels in the week the Urgent Review was published) and the associated levels of public concern, we decided that we should launch a market study to consider the potential areas for concern that we observed. In particular, we proposed that this should cover:

- Refining: Understanding what has driven recent very high spreads, increasing our understanding of how long they are likely to persist, and assessing whether there are measures the UK could or should be taking to address them or to guard against future spikes.
- Wholesale: Analysing wholesale supply arrangements with retailers.
- Retail: Despite our finding in the Urgent Review that retailer spreads had not been a driver of increased pump prices over the preceding year, we wanted to investigate further, including considering three areas of potential concern:
 - Factors driving local and regional variations in prices;
 - The relationship between wholesale and retail fuel prices;

- The role played by major supermarkets in the road fuel retail sector and potential for further benefits for consumers from competition across different types of retailers.
12. We did not propose to consider extraction or crude oil dealing within the scope of the market study. This was because the price of crude fluctuates on global markets, and there is limited scope for UK action to affect this.
 13. We set out the above in our Invitation to Comment, which we published on 8 July 2022, and invited input from all interested stakeholders.

What we have done

14. Our aim for the market study has been to expand on the work of the Urgent Review across several dimensions to address a broader scope and perform a deeper analysis.
15. First, we have considered the issues over a longer time period. Where the Urgent Review focused on the year from July 2021 to July 2022, we have looked back over a period of five years. This allows us to consider the performance of the sector over a timescale that predates two major sources of external disruption: the covid pandemic and the Russian invasion of Ukraine. We have also extended the analysis forward in time, allowing us to consider how the market has developed since we published the Urgent Review.
16. Second, we have sought to move beyond analysis of aggregated spreads to analyse the margins of individual companies in the supply chain. Unlike spreads, margins allow us to consider the costs faced by individual market participants and therefore to understand better the profit margins that they are making over time. Understanding the path of margins, and factors which are driving them, can therefore give us a much stronger indication of whether there are potential concerns over how the road fuel sector is operating for consumers, at each stage of the supply chain.
17. Third, we have carried out econometric analysis to understand the drivers of the pump prices that consumers face at different filling stations across the country. This allows us to look below the aggregate picture to see what is happening in greater detail.
18. In order to inform our work we have:
 - Considered responses to our Invitation to Comment (which we have now published on our case page);

- Issued requests for information under our compulsory information-gathering powers to the major UK participants, including all six major UK refiners, and the largest wholesalers and retailers. We have also requested information on a voluntary basis from some smaller retailers.
 - Met with the major UK refiners, a number of wholesalers and retailers, industry representative bodies, and consumer advocacy groups.
19. Using the information gained via this engagement we have begun our analytical work and are now able to share some of our emerging analysis. We want to hear views from industry participants and other stakeholders, so that we can feed these into our further work as we deepen and widen this analysis.

What we have found

(i) Retail prices of petrol and diesel

20. Figure 1 below shows the path of the nominal pump price for petrol and diesel since 2015. Despite ongoing volatility, we can see three main phases. First, in the period 2015-2017, petrol and diesel average retail prices were in the range 100–120ppl. Second, in 2018-19, these increased to 120–140ppl. Third a period of higher volatility, during which average retail prices dropped significantly in the first half of 2020 during the COVID-19 pandemic before increasing in 2021 and 2022, reaching peaks of 190–200ppl. Both petrol and diesel prices have come off these peaks, though they have recently begun to increase again, with diesel in particular coming close to the previous peak. One notable trend in the graph has been an increased differential between petrol and diesel prices during 2022. This is because North West European prices of diesel have increased relative to petrol. A significant proportion of diesel in North West Europe has historically come from Russia. Therefore the supply shock associated with the Russian invasion of Ukraine has had a greater impact on UK prices for diesel than for petrol.

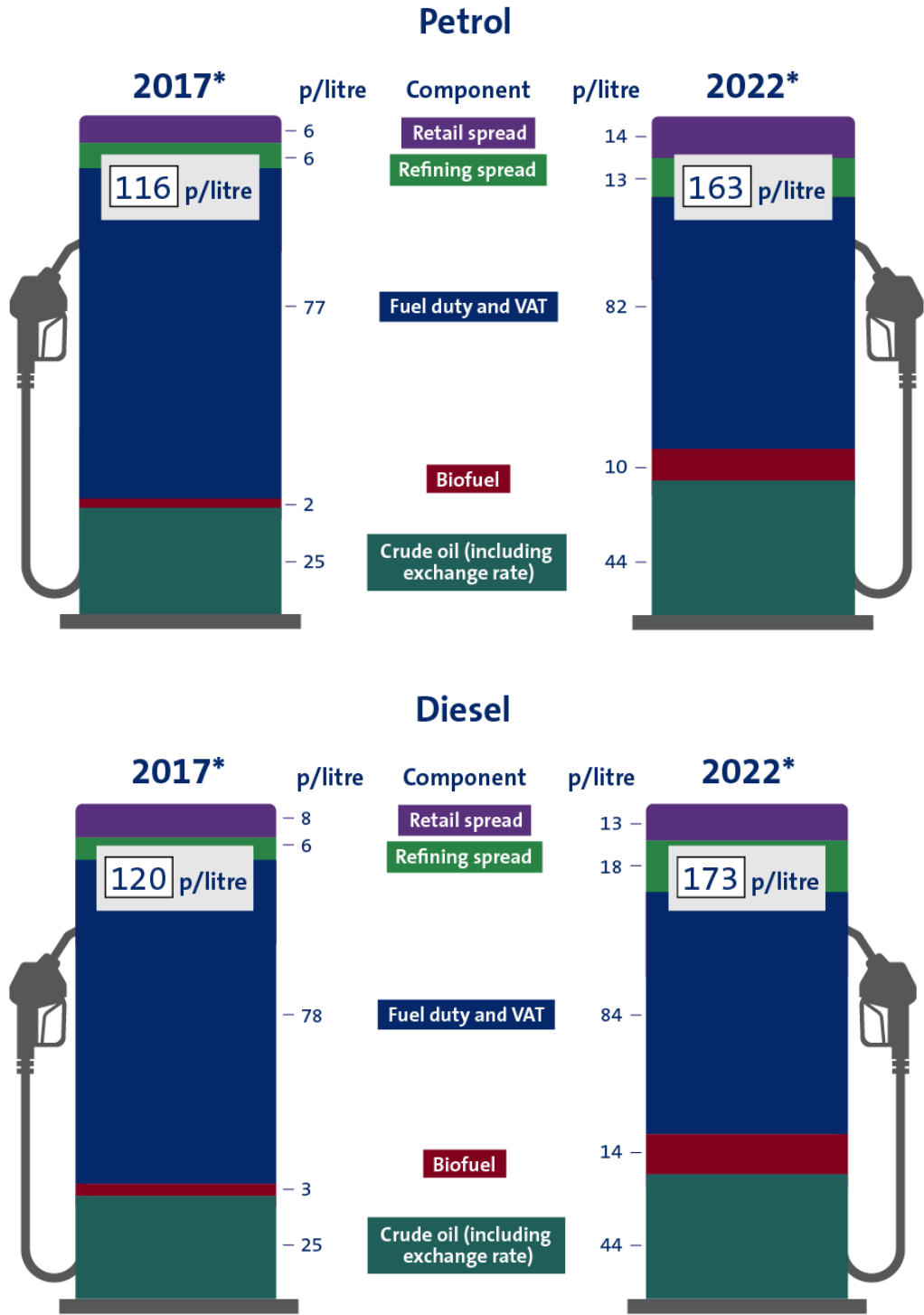
Figure 1: Retail price, January 2015 – October 2022, ppl, petrol and diesel



(ii) Components of pump price

21. Figure 2 shows average prices at the pump for petrol and diesel for the years ending October 2017 and October 2022, broken down into broad component categories. As the figure shows, the crude oil, biofuel, refining spread and retail spread components have grown between 2017 and 2022 for both petrol and diesel, and each of these components makes up a greater share of the pump price in 2022 than in 2017, while the share of fuel duty and VAT has fallen between 2017 and 2022.

Figure 2: Average pump price with components for petrol (top) and diesel (bottom), 2017 vs 2022, pence/litre

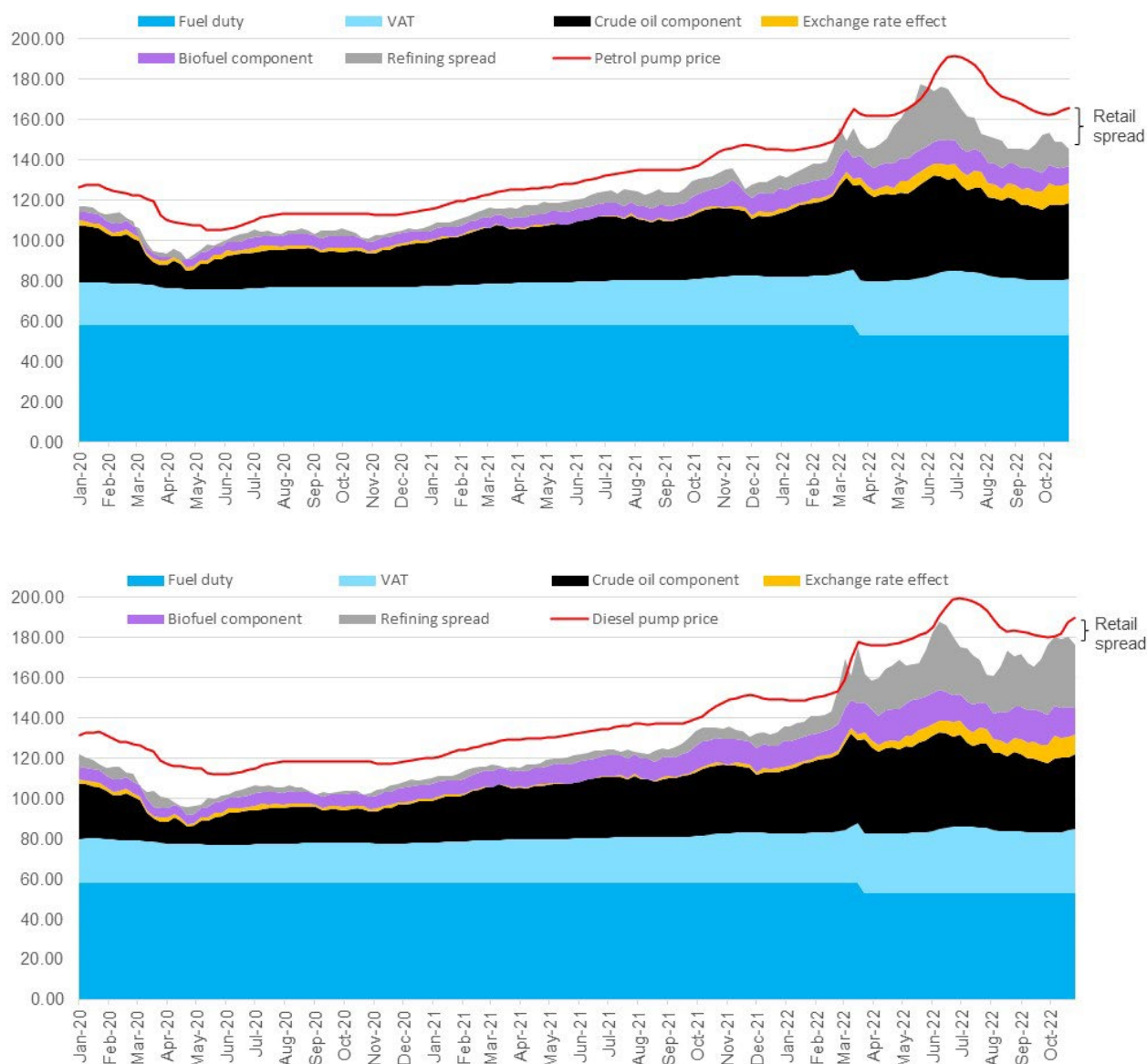


Source: BEIS, Platts, Bloomberg and Bank of England data, and CMA analysis.
 Note: *Data is averaged over 52 weeks as follows: 2017 includes 52 weeks in the period November 2016 – October 2017, and 2022 includes 52 weeks in the period November 2021 – October 2022.

22. Building on the work of the Urgent Review, we have extended our analysis of pump price components further into the past and forward to October 2022.

We have also separated out the cost of biofuels from the refining spread as the majority of these are imported, with the price set by global markets.

Figure 3: Pump price with components, January 2020 – October 2022, ppl, petrol (top) and diesel (bottom)



Source: BEIS, Platts, Bloomberg and Bank of England data, and CMA analysis.

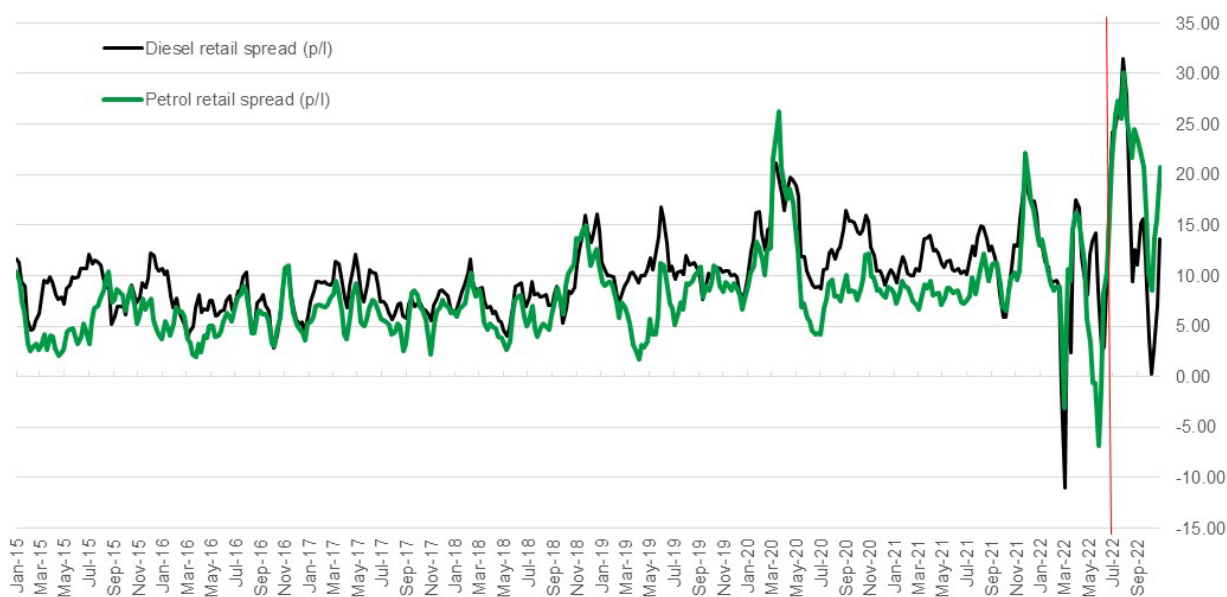
Note: The exchange rate effect is calculated relative to 7 June 2021, and it is negative in some periods.

23. The above charts show that:

- Both petrol and diesel pump prices peaked around the time we published our Urgent Review in early July and then began to fall. Since September, the pump price has stopped falling and begun to tick back up, particularly for diesel.

- The July peaks in price were preceded by peaks in the refining spread. These also began to fall in early Summer and continued to do so for petrol. For diesel, refining spreads increased again to a new peak in mid-October, remaining at an elevated level at the end of October.
 - Retail spreads in both petrol and diesel peaked shortly after we published our Urgent Review. For petrol, retail spreads have remained elevated in most weeks since then. For diesel, retail spreads remained at high levels for several weeks, before declining significantly at the start of October and then increasing again at the end of the month.
 - We observe an inverse relationship between refining spread and retail spread. When refining spread has risen, retailing spread has fallen (sometimes into negative territory, implying that, on average, retailers are making a loss on fuel during these periods). When refining spread has fallen, retail spread has increased. The volatility of refining spread in the past year has heightened this effect. These effects do not fully cancel each other out, however; retail spread plus refining spread is clearly at a higher level than previously since March 2022.
 - We can also see the impact of the weakening of the pound against the dollar, which has accounted for an increasing proportion of the pump price since January 2021. By October 2022 this had added around 10 ppl to the pump prices for petrol and diesel.
24. Retail spreads have been a relatively small component of the pump price for both petrol and diesel, ranging from 5 to 10ppl in the majority of weeks over the period 2015–2019. Retail spreads increased in the first half of 2020 coinciding with the COVID-19 lockdown which led to a significant drop in demand for road fuel and a significant fall in the price of crude oil. Since the end of 2021 there has been increased volatility in retail spreads, including periods of negative values as well as record highs.

Figure 4: Retail spreads for petrol and diesel, January 2015 – October 2022, pence/litre



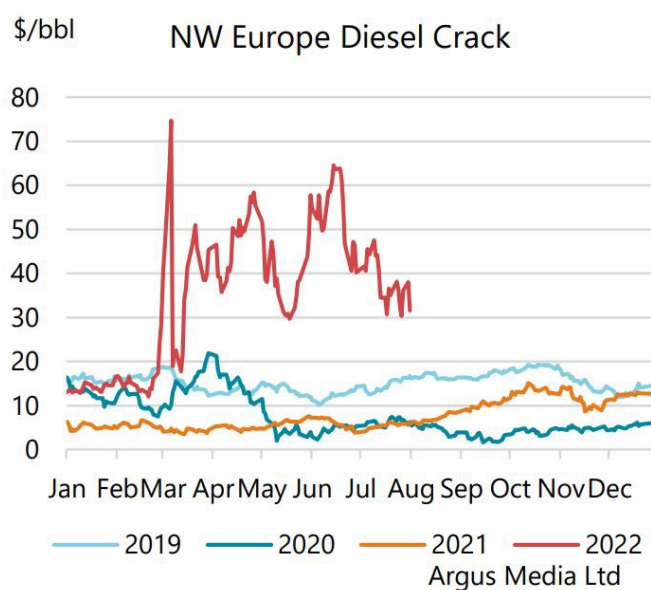
Source: BEIS, Platts, Bloomberg and Bank of England data, and CMA analysis.

25. It is clear from the spread analysis that a very significant proportion of the variation in pump prices since 2020 has been caused by factors outside the control of UK refiners, wholesalers and retailers: crude oil and biofuels prices, exchange rate, refining spread (see below), and tax and duty. This element of the variation cannot therefore be attributed to any deficiency in competition within the UK market. Given the global market dynamics, we can expect this volatility to continue in the coming years, though not necessarily to the extent we have seen since the start of the covid pandemic, and particularly since the Russian invasion of Ukraine.
26. Nonetheless, there may be some factors that *are* within the control of UK firms, which are contributing to increased volatility and/or higher prices. Consumers may have concerns that these factors may be both exacerbating the external factors driving pump prices, as well as being somewhat obscured by them. It is important that we get to the bottom of whether this is the case.
27. While spread analysis of the type described above is helpful for understanding the drivers of overall pump prices over time, it is not a good measure for understanding the underlying profitability of firms active at different levels in the market. We have therefore gathered financial and other information relating to individual firms in order to understand how competition is working at different levels of the supply chain; we set out our initial work on this in the three sections below.

(iii) Refining

28. The UK refining sector is made up of six major refiners, which operate processes to transform crude oil into petrol, diesel and other products. Together they produce around 40% more petrol than is consumed in the UK, but only around 55% of domestic consumption of diesel, with the shortfall being made up by imports. They then sell their refined product either directly to retailers, or to independent wholesalers.
29. The market for wholesale petrol and diesel is globalised, which means that the price UK refiners are able to set for their refined product is essentially determined by the prevailing international price. Indeed, refiners sell the bulk of their road fuel on the basis of contracts with terms linking the selling price to a benchmark import price (in dollars) for petrol and diesel.
30. Given that the price of crude is also set by international supply and demand, this means that UK refiners do not exercise control over the level of refining spread they experience; rather this fluctuates according to global supply and demand. Other countries have experienced similar fluctuations in refining spread during 2022, as shown by Figure 5, below.

Figure 5: Refining spread (“crack”) for diesel in North West Europe, 2019-2022.



31. Significant shocks to global demand (such as the onset of the covid pandemic bringing lockdowns around the world) and supply (such as the Russian invasion of Ukraine) have resulted in significantly increased volatility in refining spreads. Russian diesel accounted for 34% of UK imports in each year 2019-21, but this had dropped to zero by mid-2022.

32. Moreover, refining spread is itself a poor proxy for profitability at the refining level, for two main reasons:
- (i) Refiners face significant costs other than the cost of crude oil. A better measure would need to take account of these costs.
 - (ii) Refiners cannot simply input crude oil and produce an equivalent quantity of petrol and diesel. Rather their processes will involve creating a range of other “cracks” (grades of refined product), each of which has its own sale price, often lower than petrol and diesel. A better measure would need to take account of the economics of the “whole barrel” output.
33. Taking these issues into account, we have looked at overall margins for the UK refiners over the past five years. We found that:
- Overall margins over the five years have been modest and below levels that would give us cause for concern about competition.
 - Margins did become very high for a period in the first half of 2022. This was driven by forces outside the refiners’ control, primarily global supply constraints caused by the Russian invasion of Ukraine. These margins then returned towards their historical range at an average of 0.5% in August 2022. While we have analysed margin data up to August, the recent increase in the diesel refining spread suggests that margins will have moved higher again.
 - For 2020 most UK refiners experienced negative margins (ie they were loss-making). This can be explained by the global reduction in demand for refined product, due to the covid lockdown-related reduction in mobility and other activity across the world. While less uniform, we also see low margins, occasionally turning negative, through 2021.
 - Taking these impacts together, over the period since 2020 refiners have earned either low or negative margins; in effect, the margin spike in 2022 has done no more than even out the margin troughs in 2020 and 2021.
34. The UK refining industry faces stiff competition from refineries elsewhere in the world, with new capacity continuing to be added, particularly in Asia. The number of refiners in the UK, by contrast, has been in long-term decline, from 17 refineries in 1976, to 12 in 2000, to 6 today. Looking ahead, we can expect these tough globally competitive conditions to continue on the supply-side. We can also expect increasingly tough demand-side conditions with downward pressures on global demand, driven partly by the shift away from

internal combustion engine vehicles. However, the UK will continue to be reliant on imports of diesel for the foreseeable future, which will bring resilience risks.

35. Given these factors, despite the high margins that we have seen in refining during 2022, we do not see evidence that UK motorists are facing negative outcomes arising from deficiencies in competition in the UK refining sector. As noted above, refined petrol and diesel trade on international markets, with prices determined by international supply and demand. Within the UK there is no incentive for UK refiners to set prices below international levels because they know they can sell their entire output at this price level; at the same time, they cannot respond to short-term peaks in margin by increasing their capacity due to the time and expense that the capital investment required to do this would entail. This means that at times when global refining spreads are high, UK refiners will earn higher margins (and vice versa). Changing the structure of the UK industry, eg by breaking up refiners, even if practically achievable, would have no impact on this given the nature of the global market.
36. The question may be asked whether there are measures that should be taken to directly limit the margins that refiners are able to earn in periods when global prices for refined products are high. We would not, however, recommend any such measures, for three main reasons.
 - a. First, looking over a medium-term price horizon, and taking account of the at-times negative profit margins we have observed, there have to date been no overall excessive profits for UK refiners. Reducing their profit levels below sustainable medium-term rates would risk accelerating the reduction in refining capacity that the UK has seen over past decades.
 - b. Second, applying such restrictions in the UK would create an incentive for UK refiners to sell abroad, at best removing the benefit for UK consumers and at worst risking shortages in the UK; and
 - c. Third we do not know if the recent high margins will continue into the future, once the current imbalance of global supply and demand eases.
37. For these reasons, we do not think that there are interventions that could be made directly to change how the refining market is functioning in the UK, that would improve outcomes for motorists. Recognising the impact that high and volatile refining margins have on the prices consumers face at the pump, we will, however, consider whether there are wider steps that a government could take to mitigate the impact of any ongoing volatility.

(iv) Wholesale

38. The wholesaling of road fuel to retailers is carried out by refiners selling their own product, importers selling product from overseas refiners, or independent wholesalers selling product they have bought from UK refiners and importers. Wholesale supply is carried out under two principal models: unbranded supply, which typically only covers the supply of fuel; and branded supply, which typically includes branding and sometimes ancillary services such as access to a loyalty scheme or back-office support.
39. We are in the process of conducting our analysis of wholesale margins, so we will be in a position to give a view on these at a later stage of the market study. We will update on these in our next published report, which will include a focus on margins earned on fuel card purchases, and on biofuel sales.
40. Beyond questions of margin, we are also investigating issues relating to the general functioning of competition in the wholesale sector.
41. During the course of our Urgent Review, we heard general concerns that long-term supply agreements lacked the flexibility needed to respond to market forces and can bind retailers to strict terms, particularly regarding minimum volume commitments. However, the evidence we have obtained during the market study has suggested that contract lengths are typically up to five years; and that this length facilitates competition for branded supply by providing a longer period to recover the upfront rebranding costs which inevitably arise when a retailer switches some or all of its PFSs to a different brand. We have not so far seen specific evidence of suppliers enforcing volume commitments strictly (eg when demand fell drastically during the covid lockdowns) with adverse effects on competition or consumers. We welcome any further evidence from stakeholders on this issue.

(v) Retail

42. Petrol and diesel retailing in the UK is carried out via around 8,300 PFSs. These may or may not be part of a larger site. Fuel retailers often sell food, drink and other consumer goods via an onsite shop or kiosk.
43. PFSs are primarily owned and run under one of three key business models:
 - Oil-company-owned – these are owned by an oil company (such as BP, Shell, Esso or Valero (Texaco)) which brands the PFS.
 - Dealer-owned – these are owned and operated by dealers which can be branded or unbranded. They differ significantly in size with some

dealers owning a single PFS and other businesses such as Rontec, Motor Fuel Group and Euro Garages operating large chains of PFSs.

- Supermarkets – these are owned and operated by grocery retailers such as Tesco, Asda, Sainsbury's and Morrisons and are generally located adjacent to their supermarket.
44. In the Urgent Review we provided an overview of the factors driving prices experienced by UK motorists at the pump. We outlined how competition between fuel retailers takes place principally at the local level, and how conditions vary to some degree in areas across the country.
45. We looked at the difference between retail prices and wholesale costs, and found no strong indication that rising retailer spreads had driven the significant rise in pump prices that had been seen in the preceding months.
46. The Urgent Review, did, however, highlight three further areas at the retail level of the supply chain that merited further investigation:
- (i) How retailers determine the prices they set at the pump and, in particular, how retail prices track wholesale prices.
 - (ii) How prices vary at a local level and across regions – in particular it identified evidence to suggest that, on average, prices in rural areas tend to be higher than in urban areas, and that prices in England had been higher than in other nations and this warranted further investigation.
 - (iii) The role played by major supermarkets in road fuel retail markets, and whether there are ways that competition across different types of retailers can deliver further benefits for consumers.
47. During the course of our market study so far, we have carried out work that allows us to give some initial views on these three areas.

How retail prices track wholesale prices

48. To get a better understanding of how retail prices have tracked wholesale prices, and the development of retail profits as a component of pump prices, we have sought to move beyond spreads to understand retailer-level margins, and to extend our analysis over a five-year period.
49. We have first considered the retail fuel margin, which is the difference between the input cost of fuel and the selling price of the fuel, divided by total fuel revenues; this does not take into account any non-fuel operating costs.

Looking at retail fuel margins from financial year 2017 onwards, we have found that:

- Annual retail fuel margins have grown over the period 2017-21. For supermarkets, these have risen on average from 4% to 7%, while for non-supermarkets they have risen on average from 6% to 8%. We estimate that this represents an increase of c2-3ppl on diesel and c3-4ppl on petrol, at October 2022 prices. Supermarkets have had a lower fuel margin than non-supermarkets across this period, but the gap has narrowed.
 - Looking at monthly fuel margins between January 2020 to August 2022, however, we see a high level of volatility. In particular since March 2022 we see an inverse relationship (ie when one goes up, the other goes down) with refining margin, which as noted above has been very volatile over this period. These effects do not fully cancel each other out, however; retail spread plus refining spread is clearly at a higher level than previously since March 2022. Individual spikes arising from volatility during this period may be having a significant impact on the annual figures.
 - In addition, the data we have seen for the period since March 2022 indicates that retail fuel margins have trended downwards before rising again in July 2022. We need more data to understand the overall picture for 2022.
50. There are several potential explanations for why fuel margins have increased. Retailers could be facing increases in non-fuel operating costs, meaning that increasing fuel margins are not equating to increasing operating margins. Alternatively, it could be that retailers are making higher operating margins from fuel; if so, this could be offset by lower margins in other parts of their business (ie grocery sales), or be increasing their overall profitability. We will be investigating this further and are seeking evidence from supermarkets and other stakeholders on these points.
51. Regarding how firms set pump prices, one concern we have heard, over a number of years, is that pump prices increase rapidly when wholesale petrol prices are going up, but fall back slowly when wholesale prices decrease: so-called “rocket and feather pricing”. We have therefore carried out econometric analysis to see whether this is the case.
52. Our analysis did not find evidence of generalised rocket and feather pricing before the start of 2022. When the analysis was extended to cover 2022, however, we did find evidence of some rocket and feather pricing this year,

across all types of retailers. For both increases and decreases, we saw 80% of a wholesale price change passed through after six weeks, but within those six weeks some of the pass-through happened earlier for increases than for decreases. This effect was to some extent present in both petrol and diesel, but was more pronounced for the latter.

53. The evidence of rocket and feather pricing is driven primarily by the industry's response to cost shocks in only two to three weeks around March and April 2022. Given that these weeks represented an unprecedented period of expansion in refining margin, driving an extremely rapid increase in wholesale prices, we need to examine pricing practices over a longer period to understand if this was a temporary aberration or the start of a new longer-term trend.
54. The fact that we observe stronger evidence of rocket and feather activity for diesel than for petrol suggests to us that these new patterns in retail pricing are driven by changes in the supply chain, rather than by any structural changes in the retail market. A likely contributing factor is the greater supply concerns relating to diesel due to the historical dependence of North West Europe on imports from Russia.
55. In examining the impact of rocket and feather pricing, a key question is whether this is associated with increasing margins. As set out above, we see some initial evidence that profit margin may be increasing among retailers, but we need to do more analysis to understand whether this is the case.
56. We will conduct further analysis to understand the recent emergence of some rocket and feather behaviour and how this develops. We will be seeking views from retailers on these issues.

How prices vary at local level and across regions

57. As well as variations in prices and margins over time, we also committed at the launch of our market study to examine local and regional variations in prices in the UK, and the extent to which weaknesses in competition, as opposed to the impact of underlying cost differentials, might be driving higher retail prices in certain parts of the UK.
58. In the Urgent Review we found that characteristics such as site location and region may be associated with different average prices. Specifically, we found that prices in rural areas are consistently higher than those in urban areas. One potential explanation for this is that rural PFSs face higher costs, eg because they supply lower fuel volumes compared to more urban ones or because they may experience higher transportation costs. An alternative

explanation would point to weaker competition in some parts of the UK. Price levels, however, are not the only issue of concern to drivers; we also noted that higher prices may enable some lower volume sites to remain viable in sparsely populated/rural areas.

59. Looking at price variation, we have found that:

- Benchmarked against London, average petrol and diesel prices are lower in Northern Ireland, Wales, East Midlands, West Midlands, Yorkshire and Humber, and the North of England. However, with the exception of Northern Ireland (which is in a geographically unique position) these regional differences were relatively small.
- The number of local competitors has association with significant differences in price. For diesel, the addition of a competitor (where there had previously been none) is associated with a 0.46pppl reduction in price. For petrol the reduction is smaller at 0.26pppl. This effect is stronger where at least one competitor is a supermarket, and even more so when it is an Asda PFS.
- Rural PFS fuel prices are on average 1.2pppl higher than urban prices, for both diesel and petrol. However, we found that there was much wider variation within the rural and urban categories than between them.
- Considering the highest-priced 10% of non-motorway PFSs, we found that compared to the average PFS they were more likely to have no competitor at all and less likely to have a supermarket competitor (and substantially less likely to have an Asda competitor); our analysis found that these factors are likely to be associated with higher prices.
- Prices at PFSs located at motorway service stations are on average 17.2pppl higher for diesel and 16.0pppl higher for petrol than at urban sites. However, prices for motorway PFSs were much more clustered around the mean than was the case for non-motorway PFSs. Our pricing comparison does not at this stage take into account greater costs that may be faced by motorway PFSs and the impact of the much greater level of fuel card sales at these sites.

60. In the next part of the study we will seek to examine further the drivers of higher prices in the most expensive non-motorway PFSs, and in motorway PFSs as compared to non-motorway ones. This should give us a better understanding of the impact of weaker competition as a driver for higher pump prices at some PFS sites.

The role of supermarkets

61. As noted in our Urgent Review, average prices at supermarket PFSs are consistently below those at non-supermarkets. We have found that over the period of June 2017 to June 2022, supermarkets have priced on average 5.0ppl cheaper than other non-supermarkets for diesel and 5.1ppl cheaper for petrol. This price gap has varied significantly, particularly since the start of 2020, but appears to have since stabilised back to pre-2020 levels.
62. We have also carried out analysis to examine the impact of supermarkets on prices in a particular area. We found that the biggest downward impact on price of having an additional competitor came when that competitor is a supermarket: sites with at least one supermarket competitor will be on average 0.44ppl cheaper for diesel and 0.53ppl cheaper for petrol, relative to sites with no supermarket competitors. We also found that this effect is most pronounced when the supermarket is an Asda store (0.78ppl for diesel and 0.77ppl for petrol).
63. Taken together, these findings suggest that the presence of supermarket PFSs in a local area exert a noticeable downward pressure on fuel prices. We will do more work during the study to assess this, including assessing the impact of recent mergers in this area to determine whether they have had a noticeable impact on these competitive dynamics. As noted above, we will also be furthering our analysis of the development of supermarket PFS margins to assess whether, and if so why, we can observe a structural increase.

Next Steps

64. We welcome views from interested parties on the analysis and views set out in this initial update report, by 6 January 2023. Over the coming months we will continue to develop the further analysis identified in this report, seeking information from industry parties, including using our statutory information-gathering powers where appropriate.
65. We intend to publish a further report on our findings in Spring 2023, on which we will again invite comments. This will be followed by our final report, setting out our conclusions about the market, and any remedial action we feel is necessary, in advance of our statutory deadline of 7 July 2023.