

## **Supply and demand of transport fuels during COVID-19**

### **Introduction**

This article documents trends in supply and demand of road fuels (petrol and diesel) and aviation fuel (collectively, transport fuels) during the disruption to travel that resulted from the COVID-19 pandemic.

### **Key points**

Covid-19 and lockdown measures caused a reduced demand across transport fuels and levels of supply decreased in response to this.

#### Road Fuels<sup>1</sup>

From the start of lockdown until the Prime Minister's recovery strategy speech (23 March – 10 May 2020):

- Average forecourt sales in Great Britain decreased by around 60 per cent compared to average sales in the eight weeks prior to lockdown,
- Stock levels were high because of a fall in demand and hence a smaller number of deliveries to forecourts was required,
- Average stock levels in forecourts peaked to 59 per cent full.

Following the recovery strategy speech on 10 May 2020:

- As more sectors in England re-opened, demand initially recovered faster in England than Scotland and Wales,
- Demand in Scotland and Wales also increased as sectors re-opened later,
- Demand for road fuels in Great Britain increased in July and reached around 90 per cent of typical levels seen in the eight weeks prior to lockdown by the end of July,
- Supply (stock levels and deliveries to forecourts) returned to average levels by the end of July.

#### Aviation Fuel

- A larger impact of the pandemic was felt in the aviation sector as the number of flights in and out of UK declined steeply,
- In April - June 2020, UK flight traffic decreased by 90 per cent compared to 2019,
- Flight traffic increased slightly in July following quarantine exemptions to some countries

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<sup>1</sup> This article covers data from 27 January 2020 (eight weeks prior to lockdown) – 2 August 2020 (until the impact of opening most sectors is visible). Please see the final section "Further Data" for more information on accessing updated data.

### What was lockdown?

The Prime Minister announced an imposed lockdown in the UK from 23 March 2020 because of the spread of Covid-19.

### What happened to demand during lockdown?

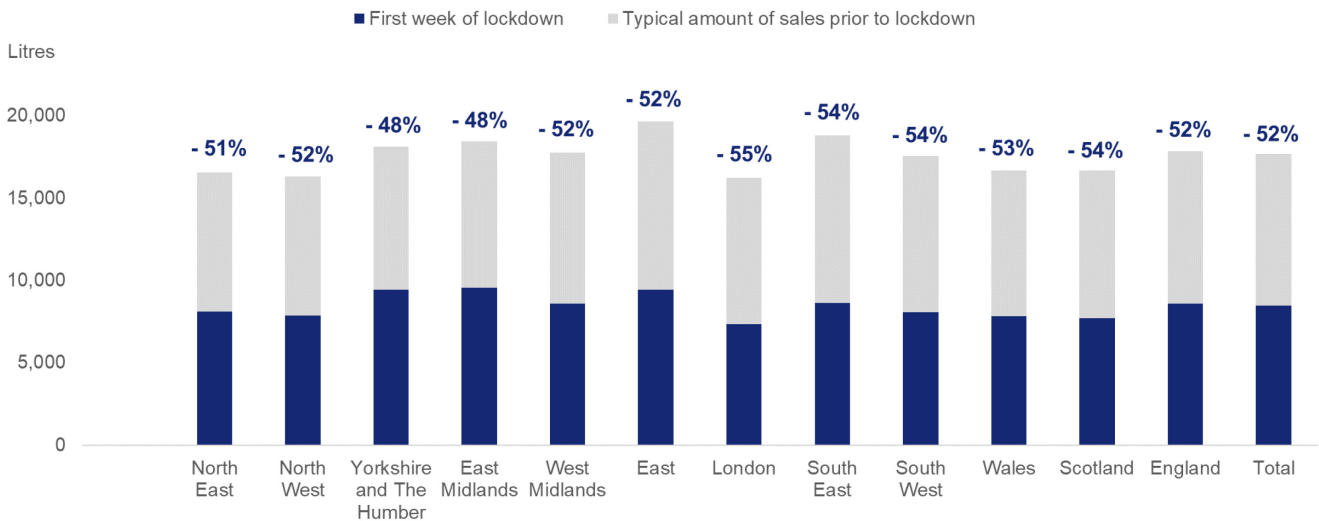
Once lockdown began, demand levels further decreased. Average forecourt sales fell from an average of 17,700 litres per filling station per day (in the eight weeks prior to lockdown) to 14,600 litres on the first day of lockdown. This was a decrease of 26 per cent compared with the previous Monday.

#### Key dates (England)

- March 16** - Stop non-essential travel, avoid pubs, work from home if possible
- March 20** - Schools closed, except for children of key workers
- March 23** - UK enters lockdown. "Stay at home, protect the NHS, save lives"
- May 10** - PM announces recovery strategy, "stay alert, control the virus, save lives". People who cannot work from home should return to work and unlimited outdoor exercise from 13 May
- June 15** - Non-essential shops re-opened
- July 4** - Pubs, restaurants and hairdressers reopen. Social distancing is set to 1m+

The first week of lockdown saw a decrease of around half the sales prior to lockdown across Great Britain. London had the largest decrease (55 per cent) whilst North East had the lowest decrease, (51 per cent). Figure 1 illustrates the average sales in the first week of lockdown (week ending 29 March) by region compared to typical levels prior to lockdown. Demand thereafter continued falling steeply with the first Sunday in lockdown (29 March) seeing a fall in sales of 62 per cent compared to the previous Sunday.

**Figure 1: Average road fuel sales in the first week of lockdown compared to typical sales by region, litres**



Source: BEIS, data covering 23 March 2020 – 29 March 2020 compared to average typical levels seen in the eight weeks prior to lockdown

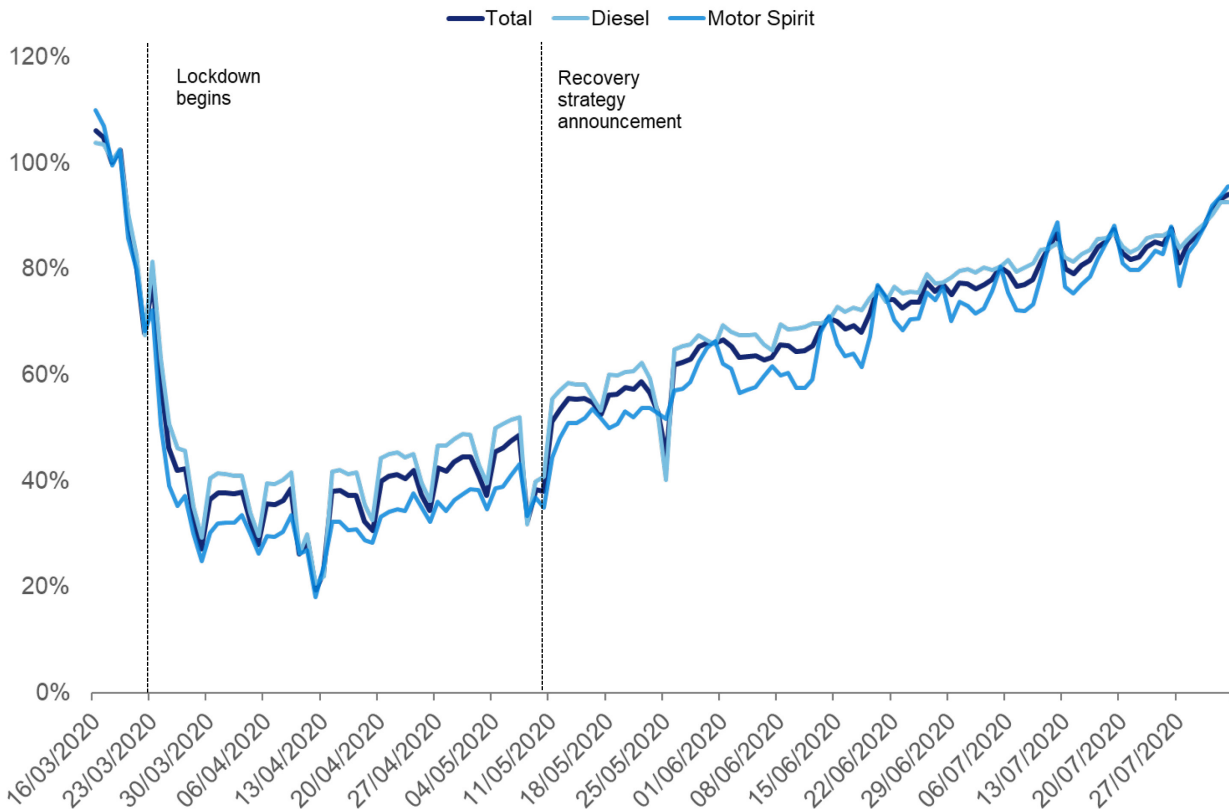
Demand levels in early lockdown varied between around 20 to 60 per cent of typical levels in the eight weeks prior to lockdown (see Figure 2). The lowest level was on Sunday 12 April (Easter Sunday) where demand was at 19 per cent of the typical level prior to lockdown, though demand on Easter Sunday is generally low. The lowest level excluding Bank Holidays was on Sunday 29 March where demand was at 27 per cent of the typical level prior to lockdown.

Following the Prime Minister’s recovery strategy speech on 10 May, average forecourt sales continued to increase every day compared with the previous week. From 11 May, average forecourt sales were above 50 per cent of typical levels before lockdown for the first time since lockdown

started. Average forecourt sales boosted upon the reopening of more sectors. Great Britain’s demand was higher when non-essential shops re-opened in England on Monday 15 June as average forecourt sales were approximately 13,200 litres (around 70 per cent of the typical levels seen prior to lockdown).

In the final stage outlined by the Prime Minister (the opening of hospitality sectors on Saturday 4 July in England), average forecourt sales reached around 12,200 litres (roughly 80 per cent of typical levels for a Saturday before lockdown). This continued to increase, and demand resumed closer to “normal” where average forecourt sales were as high as approximately 90 per cent of typical levels prior to lockdown, at the end of the period detailed here.

**Figure 2: Demand as a proportion of typical levels by fuel type, per cent**



Source: BEIS, data covering 16 March 2020 – 2 August 2020

### Were there any differences by country in Great Britain?

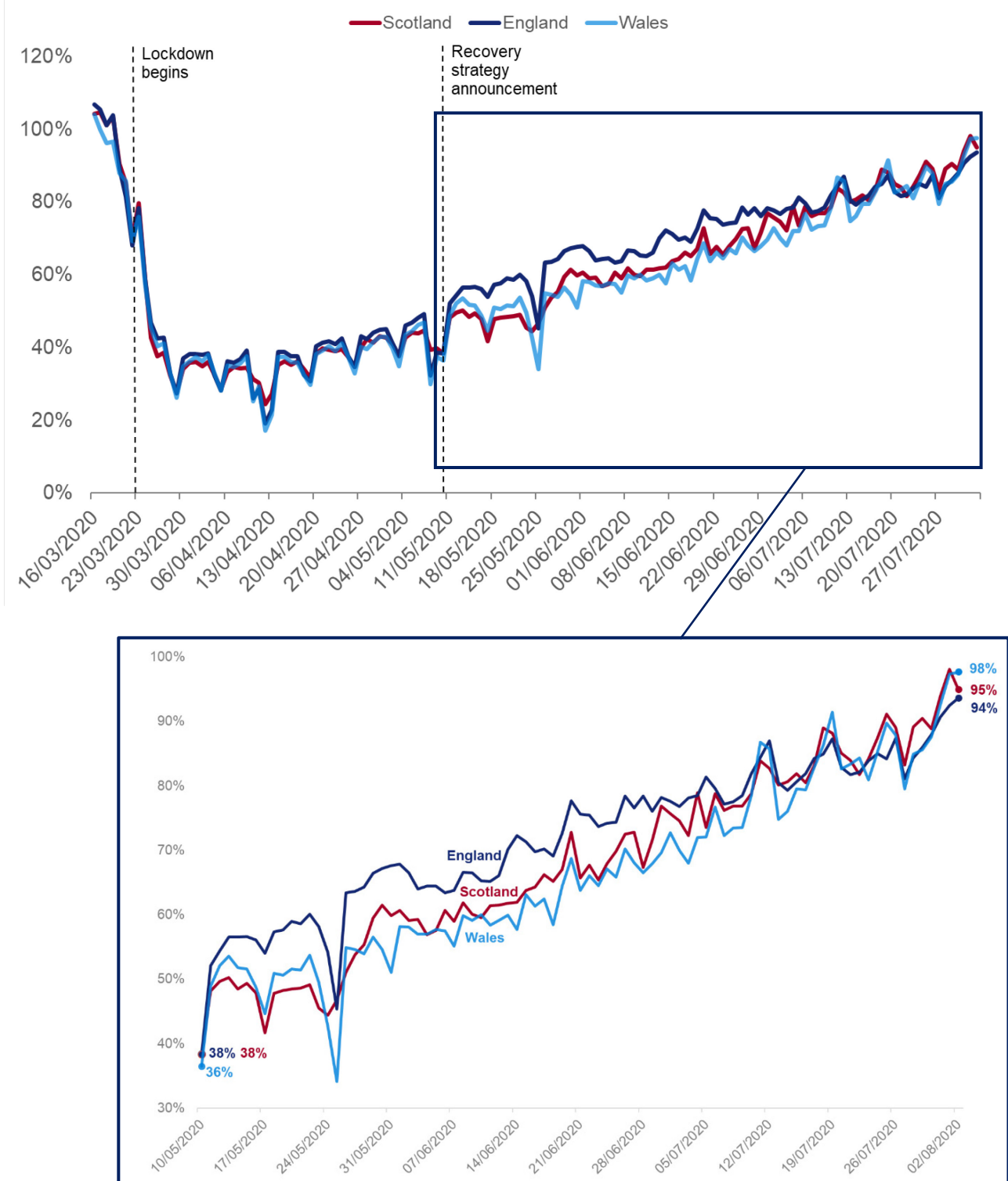
Demand for road fuels in England, Scotland and Wales followed a similar trajectory during early lockdown. A small divergence occurred following different strategies after 10 May (see Figure 3 for time series). England usually had higher demand levels as the opening of some sectors occurred earlier in England than Scotland and Wales. The highest difference between England and Scotland occurred on 23 May as demand in England was 13 percentage points higher than Scotland. The highest difference between England and Wales occurred on 14 June when demand in England was 15 percentage points higher than Wales.

On average, the proportion of demand compared to typical levels in England was 6 percentage points higher than Scotland until 13 July, at which point the final re-opening of sectors such as pubs and restaurants occurred in Scotland. This resulted in demand levels in Scotland surpassing that of England for a couple of days and being broadly similar thereafter. Whereas, in Wales the proportion of demand levels was slightly lower and hence, demand in England was 8 percentage points higher until 13 July and followed a broadly similar pattern thereafter, once Welsh pubs and restaurants had

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also reopened. Towards the end of this time period (end of July), once all countries had similar sectors open, demand in England was lower than Scotland and Wales, most notably on 25 July, when demand levels in England were 7 and 6 percentage points lower respectively.

**Figure 3: Demand levels as a proportion of typical levels by country, per cent<sup>2</sup>**



Source: BEIS, data covering 16 March 2020 – 2 August 2020

<sup>2</sup> Please note the time series illustrates two low points due to lower sales on Bank Holidays (12 April and 25 May).

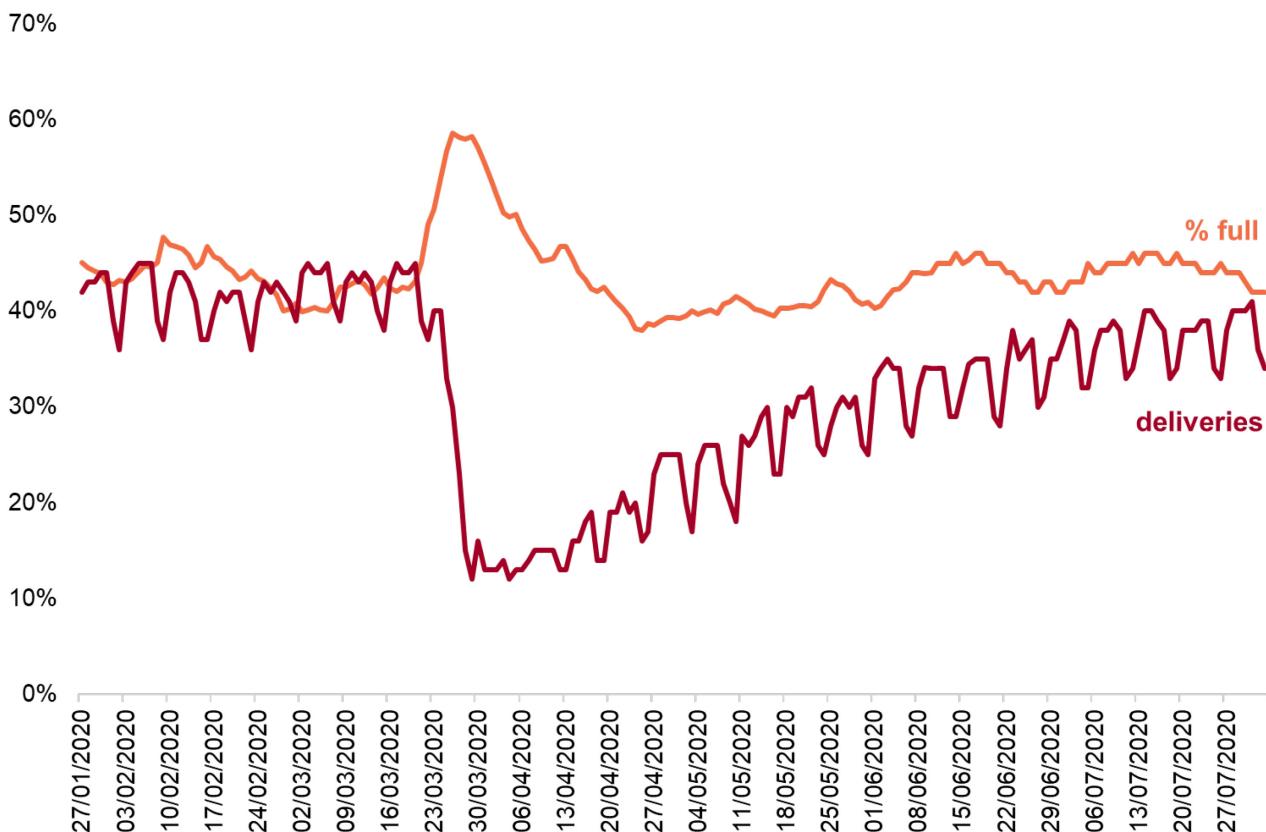
### What was supply like during lockdown?

A fall in demand in early lockdown resulted in an increased level of stock. On 26 March, forecourt stock levels on average peaked to 59 per cent full, 16 percentage points higher than average stock levels in the eight weeks prior to lockdown. The downstream oil sector adjusted to the lack of demand by making fewer deliveries whilst stocks were high. Deliveries fell to 12 per cent on 29 March, a decrease of 71 per cent compared with pre-lockdown levels.

Deliveries to forecourts increased once stock levels had fallen below 40 per cent full. Deliveries slightly increased to accommodate the increased demand, particularly after the Prime Minister’s recovery strategy announcement. Since average forecourt sales were still lower than sale levels from the eight weeks prior to lockdown, deliveries were also not at average levels.

In the final week of this period (at the end of July), deliveries had increased and reached 38 per cent, 5 percentage points lower than average levels in the eight weeks prior to lockdown. Most notably around 40 per cent of forecourts received a delivery in the last few days of July and stock levels closed at average levels (around 43 per cent full), as seen in Figure 4.

**Figure 4: Time series of stock levels (per cent full in forecourts) and proportion of forecourts receiving a delivery**



Source: BEIS, data covering 27 January 2020 – 2 August 2020

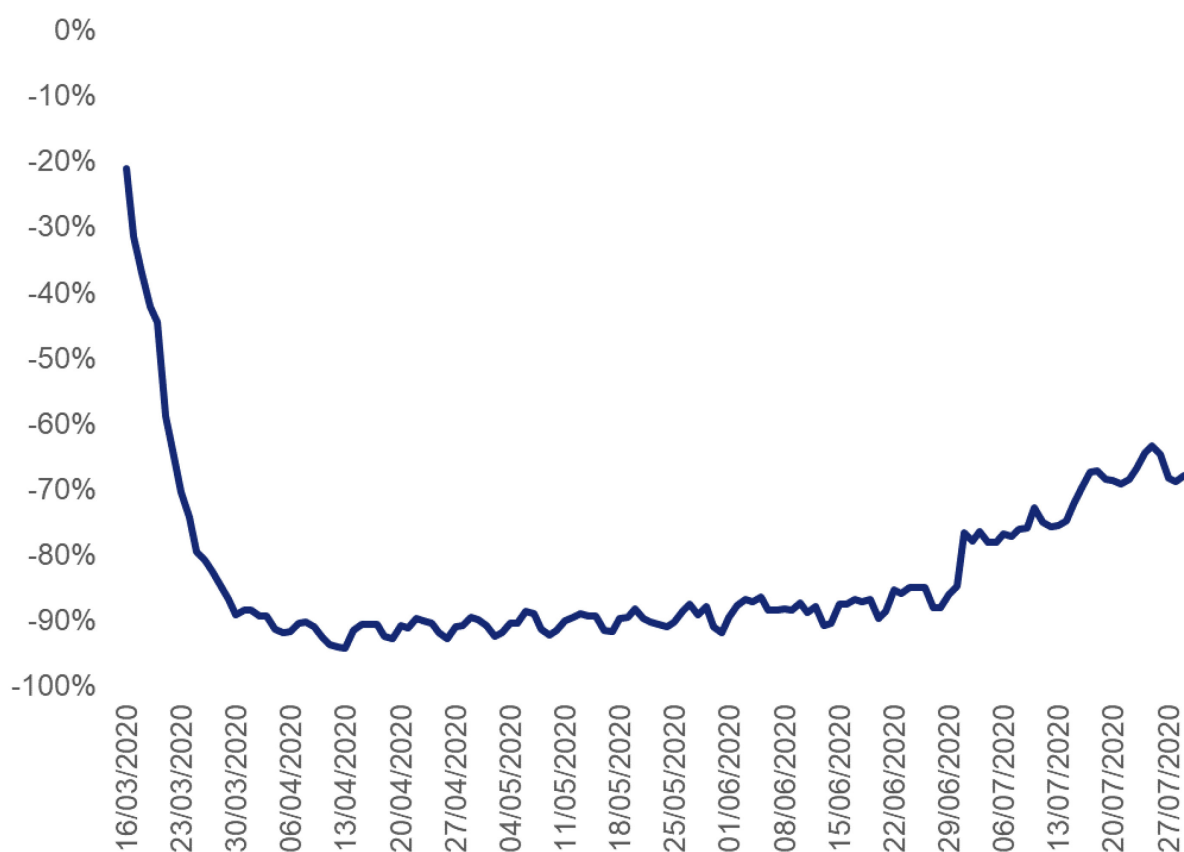
### Jet demand during lockdown<sup>3</sup>

The Foreign and Commonwealth Office advised against all non-essential travel on 17 March which had significant implications for air travel. Following this announcement, flight traffic<sup>4</sup> in and out of UK had decreased by a third compared to the same day in 2019. This declined further as the week continued and on the first day of lockdown, flight traffic in and out of the UK had fallen by 70 per cent compared to 2019.

Demand for aviation was most impacted from April to June as these months had an average decline in flight traffic by approximately 90 per cent compared with 2019, with a slight increase in June.

Following the announcement of exemptions to quarantine rules in some countries, flight traffic increased in July despite the overall decline. During July, flight traffic was approximately down by 71 per cent versus 2019. The increase in travel during July was an improvement of roughly 30 percentage points by the end of July compared to April/May 2020.

**Figure 5: Percentage change comparison of number of flights**



Source: Eurocontrol data (see footnote 2), data covering flights from 16 March 2020 – 2 August 2020 versus the number of flights in the same period in 2019

<sup>3</sup> Source: Aviation data from Eurocontrol: [www.eurocontrol.int/Economics/DailyTrafficVariation-States.html](http://www.eurocontrol.int/Economics/DailyTrafficVariation-States.html)

<sup>4</sup> Flight traffic includes flights covering international arrivals, departures, domestics but excludes overflights.

### **Further data**

These statistics are based on the “Experimental Statistics on average road fuel sales and stock levels”<sup>5</sup> at sampled filling stations in Great Britain”. That publication has further details on the data sources used in this analysis.

Please be advised our intention is to publish the Experimental Statistics on average road fuel sales and stock levels monthly from the end of September until the end of December 2020. In addition to the monthly release on Thursday 29 October 2020, we intend to publish a draft quarterly release for users to provide feedback on. From Thursday 28 January 2021 we aim to publish these data on a quarterly basis.

We welcome feedback on the publication of the average road fuel sales and stock levels and the new proposed timeline of the publication. Please email any comments or suggestions to [Downstream.Oil.Statistics@beis.gov.uk](mailto:Downstream.Oil.Statistics@beis.gov.uk).

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<sup>5</sup> Publication can be found on the last table of [www.gov.uk/government/statistics/oil-and-oil-products-section-3-energy-trends](http://www.gov.uk/government/statistics/oil-and-oil-products-section-3-energy-trends)