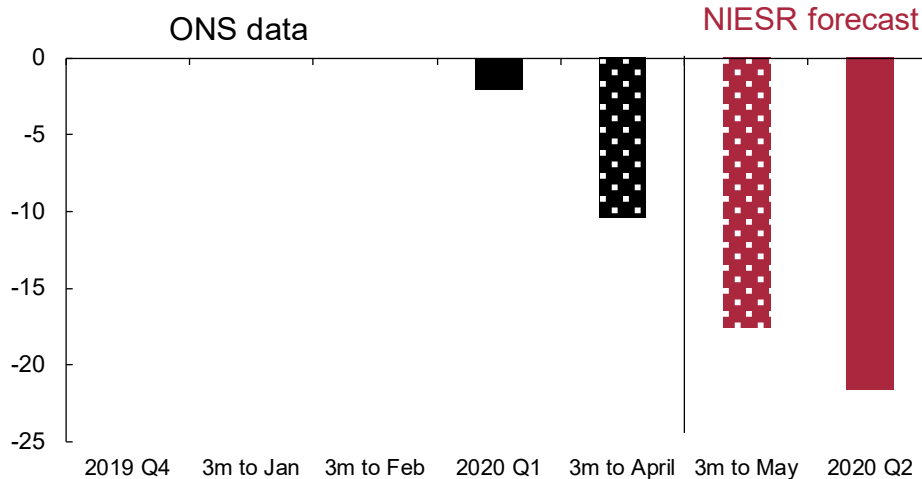


## UK set to lose a quarter of output in Q2

**Figure 1** - UK GDP growth (3 months on previous 3 months, per cent)



### Main points

- The UK economy looks set to decline by 20 to 25 per cent in the second quarter of 2020, a significantly steeper decline than the first quarter, reflecting the full impact of lockdown measures.
- According to the ONS estimate published this morning, the UK economy contracted by 10.4 per cent in the three months to April, broadly in line with what we forecast last month (figure 1).
- The contraction in growth reflects negative contributions across all the sectors. The May easing of the lockdown, suggests that April might have marked the trough in activity.

*"As we have suggested, around a quarter of GDP is lost when the lockdown is fully in place. The latest ONS estimate represents a record monthly decline for UK GDP, with all sectors experiencing record falls. However, the economy now appears to have bottomed out, as recent survey evidence suggests an easing in the rate of contraction in the manufacturing and services sector. The re-opening of non-essential stores from 15 June, coupled with the government's continued support should aid a gradual, albeit limited, recovery in domestic activity."*

**Dr Kemar Whyte**

**Senior Economist - Macroeconomic Modelling and Forecasting**

## Economic setting

The short-term outlook for the UK economy continues to be dominated by uncertainty related to the COVID-19 pandemic. Latest ONS data suggest the UK economy has suffered its largest monthly fall on record. The 20.4 per cent fall in April dwarfs that of the previous month and makes all other record monthly pre-COVID falls seem insignificant (2.2 per cent in June 2002, 1.5 per cent in June 2012, and 1.0 per cent in September 2008).

However, the pandemic has slowly started to recede, as recent survey evidence suggest activity is beginning to pick up. As lockdown measures are lifted, we anticipate a partial recovery in the second half of this year. The economy now appears to have bottomed out, with the latest services and manufacturing PMIs suggest that the pace of contraction has eased in May, though it remains deep in negative territory. The re-opening of non-essential stores from 15 June, coupled with the government's continued support should aid a gradual recovery in domestic activity. Also, the extension of the government's furlough scheme should provide much needed labour market support. Although the gradual restarting of activities will boost output, some containment measures such as international border closures could limit the pace of recovery.

A potential second wave of infections as lockdown measures are eased remains a key downside risk to the outlook. In addition, renewed uncertainty surrounding Brexit is also weighing on businesses' minds and therefore could hinder recovery.

## News in latest ONS data

The latest monthly ONS data were largely in line with what we had anticipated last month, with data confirming GDP declined by 10.4 per cent in the three months to April. Figure 2 shows how our short-term forecasts for recent quarters have changed as new information has become available.

**Figure 2** - Evolution of the NIESR quarterly GDP forecast (3 months on previous 3 months, per cent)

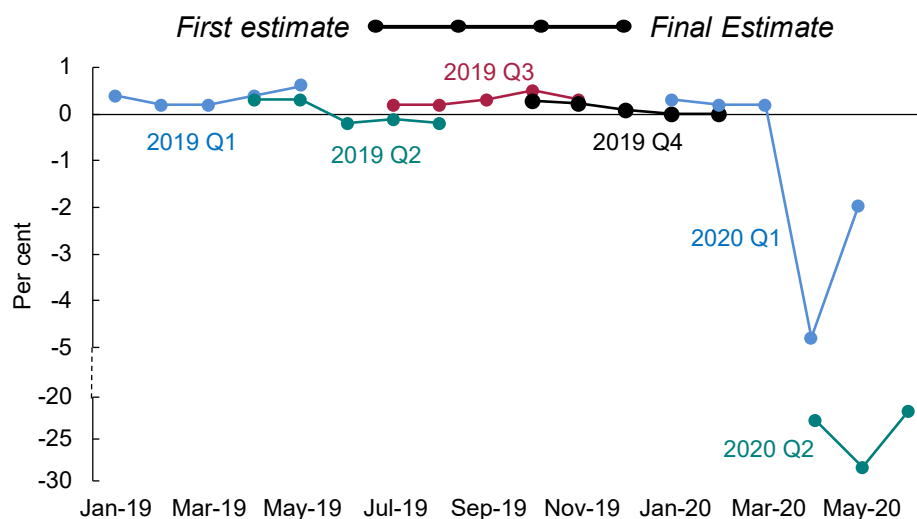
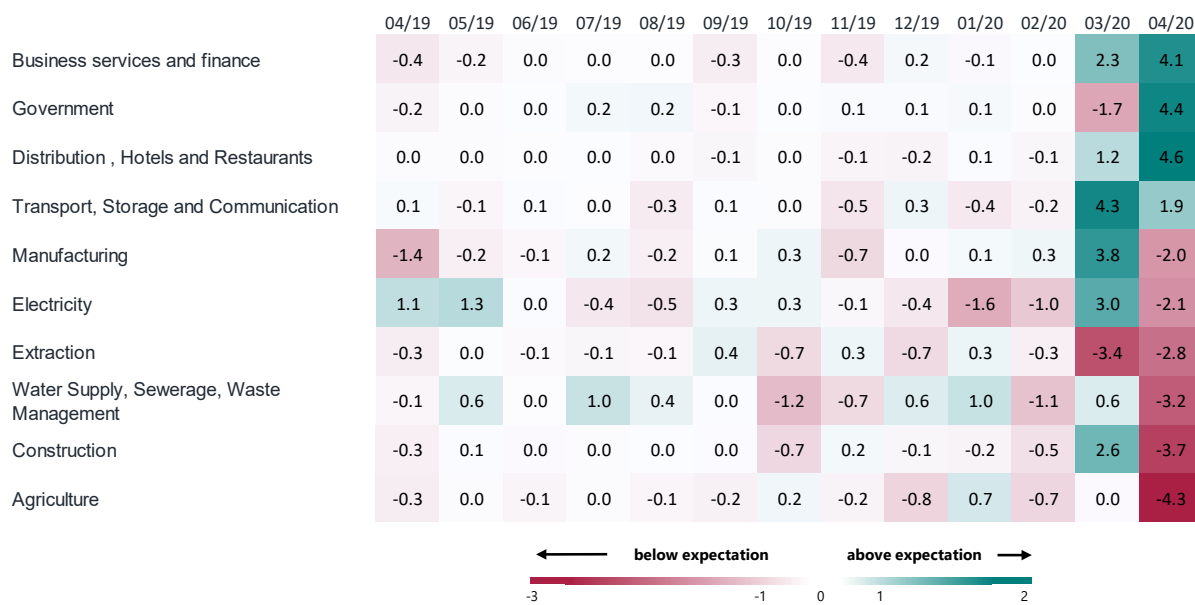


Figure 3 shows a heat map of the data surprises across sectors in the monthly data, relative to last month's GDP Tracker, highlighting the sectors where the surprises are large relative to the volatility of the output data. This month, there were negative surprises in agriculture, construction, water and sewage waste management, and manufacturing. There were large positive surprises in distribution and hotels, government, and business services where output did not fall by as much as we had tentatively expected.

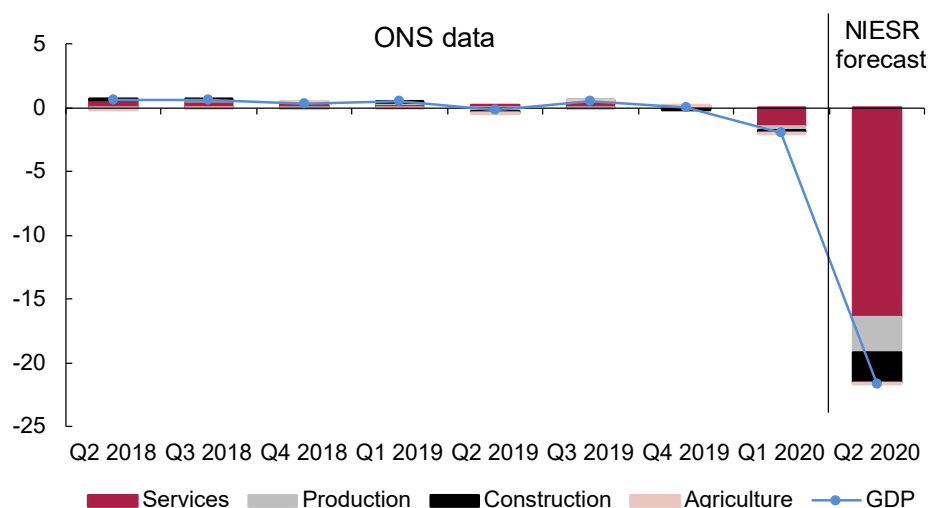
Figure 3 - Surprises in monthly data



Note: Cells show forecast errors as a fraction of the standard deviation of errors for each series. Green cells are greater than expected, red cells are less than expected.

### Sectoral detail

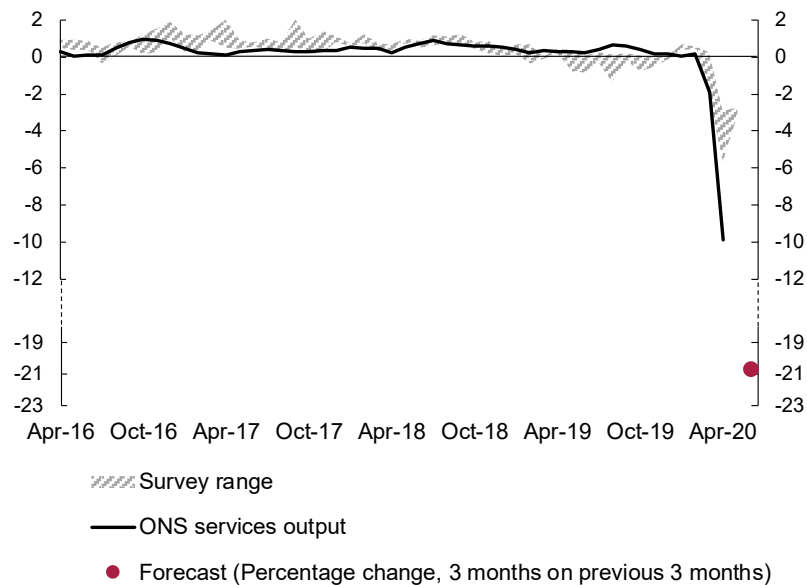
The economy contracted by 10.4 per cent in the three months to April. The decline in growth in the last three months was underpinned by record falls across all sectors. The growth forecast for the second quarter of 2020 is predicated on a significant negative effect of the COVID-19 virus (figure 4). This shows output contracting by 20-25 per cent. This implies a level of GDP similar to that of 2002.

**Figure 4** - Contributions to quarterly GDP growth (percentage points)

### Services (80 per cent of GDP)

According to ONS data, the services sector fell by 9.9 per cent in the three months to April, an estimate that is stronger on the upside than we predicted last month. The fall in the services sector was driven by declines in nearly all industries, most notably in wholesale and retail trade of motor vehicles which fell by 41.6 per cent, food and beverage services which fell by 38.8 per cent, and education which fell by 18.8 per cent due to school closures. We forecast growth in the service sector to decline by 20.7 per cent in the second quarter of 2020 (figure 5), owing largely to the negative impact of the outbreak COVID-19 and the resulting containment measures.

**Figure 5** - ONS service sector growth (3 months on previous 3 months, per cent) compared with swathe of business survey balances (standardised)



Note: The shaded swathe shows the highest and lowest values each month of a range of business survey balances that have been standardised so that they have the same mean and standard deviation as the quarterly growth of the ONS series. Source: ONS, CBI, Markit, Bank of England Agents, EC, NIESR calculations.

The survey balances point to a sharp contraction in growth in the private service sector, as shown by the swathe of survey indicators in figure 5. The headline business activity balance in the IHS Markit/CIPS UK services registered at 29.0 in May, up from 13.4 in April. Survey evidence once again links the decline in business activities to lacklustre business and consumer spending due to the COVID-19 pandemic. Globally, Services Activity Index registered at 35.2 in May, up from a survey-record low of 24.0 in April.

## Production (14 per cent of GDP)

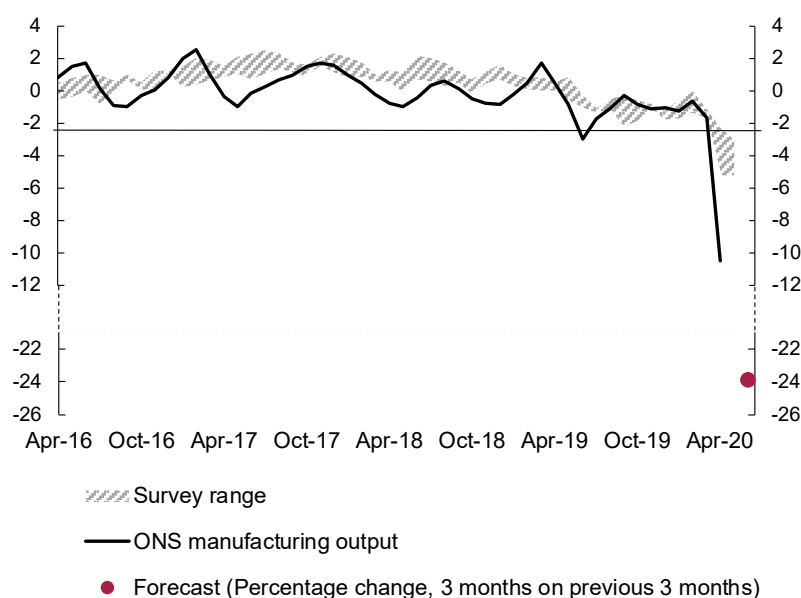
Production output fell by 9.5 per cent in the three months to April, a slightly sharper decline than we anticipated last month. The decline in production largely reflects widespread falls across manufacturing industries. We estimate that production will contract by 20.1 per cent in the second quarter of 2020, though output in this sector is volatile and difficult to predict on a quarterly basis with any accuracy.

The production sector comprises manufacturing; mining and quarrying; electricity gas, steam and air conditioning; water supply and sewerage; and oil and gas extraction. The largest of these sectors is manufacturing, worth 10 per cent of GDP.

## Manufacturing (10 per cent of GDP)

Within production, output in the manufacturing sector fell by 10.5 per cent in the three months to April. Manufacturing industries experienced widespread decline over the last three-month period, with all but one sub-sector experiencing contraction. The impact of COVID-19 meant the manufacture of transport equipment took a major hit, falling by about 28 per cent. The sole increase in manufacturing was the manufacturing of pharmaceuticals, which grew by 15.4 per cent. Our central forecast, which incorporates the full impact of COVID-19 containment measures, is for a contraction of about 24.0 per cent in the second quarter of 2020.

**Figure 6** - ONS manufacturing sector growth (3 months on previous 3 months, per cent) compared with swathe of business survey balances (standardised)



Note: The shaded swathe shows the highest and lowest values each month of a range of business survey balances that have been standardised so that they have the same mean and standard deviation as the quarterly growth of the ONS series. Source: ONS, CBI, Markit, Bank of England Agents, EC, NIESR calculations.

The IHS Markit/CIPS UK manufacturing PMI increased to 40.7 in May, up from a record low of 32.6 in April. The fall has been mainly attributed to COVID-19 related closures and social distancing measures to combat the spread of the virus.

The J.P.Morgan Global Manufacturing Output rose to 42.4 in May, up from 39.8 in April. The downturn continues to be linked to disruptions to industry and its supply chains as a result of the COVID-19 pandemic.

### **Mining and quarrying (1 per cent of GDP)**

Mining and quarrying is a small but erratic component of industrial production that can have an influence on overall GDP growth. Output fell by 12.2 per cent in the three months to April, owing largely to shutdowns and reduced oil and gas demand. We now forecast a 14.9 per cent decline in growth in output in the second quarter of 2020.

### **Construction (6 per cent of GDP)**

Output in the construction sector fell by 18.2 per cent in the three months to April, a slightly sharper decline than we had forecast last month. The decline reflects large falls in private housing and private commercial, which fell by 28.3 per cent and 19.6 per cent, respectively. For the month of April, the construction industry fell by a record 40.1 per cent, driven by record declines across all types of work, most notably private housing. We estimate construction output to decline by 38.1 per cent in second quarter of 2020.

The IHS Markit/CIPS construction PMI survey rose to 28.9 in May, up from a record low of 8.2 in April. Survey respondents indicated that the improvement on the previous month is largely due to the gradual reopening of some construction sites as lockdown measures began to ease.



Table 1 - Summary Table of GDP growth (2016=100)

2016=100	GDP index	Index of Services	Index of Services - Components				Index of Production	Index of Production - Components				Index of Construction	Agriculture
			Business services and finance	Government and other services	Distribution, Hotels and Restaurants	Transport, Storage and Communications		Manufacturing	Electricity, gas, steam and air conditioning	Mining and Quarrying	Water Supply, Sewerage and Waste Management		
Latest weights	1000	796	339	217	133	108	136	102	15	6	13	61	7
Jun-18	103.7	103.6	102.8	101.9	105.9	107.0	102.9	103.8	94.3	106.4	104.6	106.6	101.9
Jul-18	104.0	103.9	103.0	101.9	106.9	107.2	103.2	103.5	97.2	111.1	104.3	106.7	101.7
Aug-18	104.1	104.1	102.9	102.1	106.6	109.0	103.1	103.3	97.0	112.1	104.0	106.3	101.8
Sep-18	104.1	104.2	102.8	102.2	106.1	109.9	102.5	103.0	94.9	108.0	104.3	107.2	102.4
Oct-18	104.4	104.5	103.4	102.4	106.8	109.5	102.4	102.5	96.2	111.4	103.7	107.7	103.0
Nov-18	104.6	104.8	103.4	102.4	107.7	110.0	102.2	102.6	95.7	107.9	103.2	107.3	103.0
Dec-18	104.2	104.5	103.0	102.6	106.7	110.6	101.6	102.1	94.6	107.3	102.9	105.2	102.0
Jan-19	104.8	104.8	102.8	102.7	108.1	111.6	102.5	103.3	96.4	105.2	102.0	108.4	101.8
Feb-19	105.0	105.0	103.1	102.9	108.1	111.6	102.7	104.0	92.4	107.5	101.6	110.1	101.5
Mar-19	105.1	105.1	103.1	103.1	108.5	111.3	103.5	105.1	91.8	108.7	102.0	108.5	101.4
April-19	104.5	105.0	102.8	103.0	108.4	112.1	100.1	100.4	94.7	105.5	101.4	107.8	101.2
May-19	104.8	105.1	103.0	103.2	108.5	111.7	101.1	101.3	94.7	106.8	104.1	108.3	101.1
Jun-19	105.0	105.5	103.3	103.6	108.6	112.4	101.1	101.3	94.8	106.5	104.4	106.8	101.1
Jul-19	105.4	105.9	103.8	103.7	108.7	113.5	101.0	101.4	94.0	105.8	104.0	108.2	101.2
Aug-19	105.2	105.8	103.9	104.0	108.7	112.1	100.4	100.6	92.8	106.1	105.2	108.1	101.3
Sep-19	105.3	105.8	103.7	104.0	108.4	112.9	100.5	100.1	92.7	113.2	105.9	109.5	101.3
Oct-19	105.5	106.2	104.3	104.2	108.9	113.3	100.7	100.6	95.3	105.9	104.8	106.9	101.3
Nov-19	105.2	105.8	103.8	104.6	108.1	111.6	99.6	99.1	95.6	106.6	105.1	109.4	101.3
Dec-19	105.3	106.0	104.1	104.7	108.2	112.4	99.4	99.1	93.8	103.9	106.1	109.2	101.4
Jan-20	105.4	106.2	104.2	104.9	109.1	111.2	99.3	99.3	90.5	104.2	107.3	109.4	101.3
Feb-20	105.3	106.2	104.5	104.9	108.5	110.9	99.2	99.5	89.4	103.7	105.5	107.0	101.2
Mar-20	99.1	99.6	102.2	97.3	93.3	104.0	95.0	94.9	88.1	91.9	104.9	100.8	101.0
Apr-20	78.9	80.7	90.9	76.2	58.5	84.9	75.7	71.8	79.7	80.6	99.3	60.3	95.5
May-20	82.5	84.1	92.9	75.6	72.0	88.9	78.9	75.3	82.0	86.6	100.9	69.4	89.1
Jun-20	81.3	82.7	92.6	72.5	71.0	87.3	79.8	76.4	81.3	87.8	101.6	66.7	85.0
<b>Percentage change, 3 months on previous 3 months</b>													
Feb-19	0.3	0.3	-0.2	0.4	0.7	1.3	-0.1	0.4	-1.2	-2.2	-1.5	0.5	-1.0
Mar-19	0.5	0.4	-0.3	0.4	1.1	1.3	0.8	1.7	-2.1	-1.6	-1.4	2.1	-1.1
April-19	0.3	0.3	-0.1	0.4	0.8	0.8	0.0	0.5	-2.7	0.4	-1.0	1.7	-0.9
May-19	0.1	0.3	0.0	0.4	0.8	0.4	-0.7	-0.8	-0.8	0.3	0.3	0.3	-0.5
Jun-19	-0.2	0.2	0.0	0.4	0.2	0.5	-2.1	-3.0	1.3	-0.8	1.4	-1.3	-0.4
Jul-19	0.2	0.4	0.4	0.5	0.2	0.8	-1.0	-1.8	1.6	-0.8	2.5	-0.9	-0.2
Aug-19	0.4	0.6	0.7	0.6	0.2	0.9	-0.7	-1.1	0.1	-0.8	2.0	-0.5	0.0
Sep-19	0.5	0.6	0.7	0.6	0.1	0.7	-0.1	-0.3	-1.7	2.0	1.7	0.9	0.1
Oct-19	0.3	0.4	0.6	0.5	0.1	0.2	-0.5	-0.9	-1.0	1.9	1.1	0.4	0.2
Nov-19	0.1	0.2	0.3	0.5	-0.2	-0.1	-0.6	-1.2	0.7	2.3	0.7	0.8	0.1
Dec-19	0.0	0.2	0.3	0.6	-0.2	-0.4	-0.7	-1.1	1.9	-2.7	0.3	-0.1	0.1
Jan-20	0.0	0.1	0.1	0.6	-0.2	-0.9	-1.1	-1.3	-0.3	-3.2	0.8	1.1	0.0
Feb-20	0.0	0.2	0.3	0.5	0.1	-1.0	-1.0	-0.6	-3.5	-4.3	1.0	-0.1	0.0
Mar-20	-2.0	-1.9	-0.4	-2.0	-4.4	-3.3	-2.1	-1.7	-5.9	-5.2	0.5	-2.5	-0.2
Apr-20	-10.3	-9.9	-4.6	-11.4	-20.0	-10.6	-9.5	-10.5	-8.1	-12.2	-2.8	-18.3	-2.1
May-20	-17.6	-17.0	-8.6	-20.8	-31.3	-17.0	-16.2	-18.8	-8.7	-16.9	-4.3	-29.2	-6.0
Jun-20	-21.7	-20.7	-11.1	-27.0	-35.2	-20.0	-20.1	-23.9	-9.3	-14.9	-5.0	-38.1	-11.2
<b>Percentage change, month on same month in previous year</b>													
Feb-19	2.2	2.5	1.0	1.7	4.4	6.9	-0.2	0.4	-8.7	4.9	2.0	4.9	-1.6
Mar-19	2.3	2.3	0.7	1.6	5.3	5.6	0.7	1.9	-11.3	9.2	0.9	5.2	-1.3
April-19	1.4	1.8	0.1	1.4	4.1	5.9	-2.2	-2.2	-4.1	-2.5	1.0	3.2	-1.3
May-19	1.4	1.5	0.3	1.5	2.6	4.8	-0.8	-1.7	3.3	0.3	2.2	2.4	-1.3
Jun-19	1.3	1.8	0.5	1.7	2.5	5.0	-1.7	-2.4	0.5	0.1	-0.2	0.2	-0.8
Jul-19	1.3	1.9	0.8	1.8	1.7	5.9	-2.1	-2.0	-3.3	-4.8	-0.3	1.4	-0.5
Aug-19	1.1	1.6	1.0	1.9	2.0	2.8	-2.6	-2.6	-4.3	-5.4	1.2	1.7	-0.5
Sep-19	1.2	1.5	0.9	1.8	2.2	2.7	-2.0	-2.8	-2.3	4.8	1.5	2.1	-1.1
Oct-19	1.1	1.6	0.9	1.8	2.0	3.5	-1.7	-1.9	-0.9	-4.9	1.1	-0.7	-1.7
Nov-19	0.6	1.0	0.4	2.1	0.4	1.5	-2.5	-3.4	-0.1	-1.2	1.8	2.0	-1.7
Dec-19	1.1	1.4	1.1	2.0	1.4	1.6	-2.2	-2.9	-0.8	-3.2	3.1	3.8	-0.6
Jan-20	0.6	1.3	1.4	2.1	0.9	-0.4	-3.1	-3.9	-6.1	-1.0	5.2	0.9	-0.5
Feb-20	0.3	1.1	1.4	1.9	0.4	-0.6	-3.4	-4.3	-3.2	-3.5	3.8	-2.8	-0.3
Mar-20	-5.7	-5.2	-0.9	-5.6	-14.0	-6.6	-8.2	-9.7	-4.0	-15.5	2.8	-7.1	-0.4
Apr-20	-24.5	-23.1	-11.6	-26.0	-46.0	-24.3	-24.4	-28.5	-15.8	-23.6	-2.1	-44.1	-5.6
May-20	-21.3	-20.0	-9.8	-26.7	-33.7	-20.5	-21.9	-25.7	-13.4	-18.9	-3.0	-35.9	-11.9
Jun-20	-22.6	-21.7	-10.4	-30.1	-34.6	-22.3	-21.1	-24.6	-14.2	-17.6	-2.7	-37.6	-15.9
<b>Percentage change, month on previous month</b>													
Feb-19	0.2	0.2	0.3	0.2	0.0	0.0	0.2	0.7	-4.1	2.2	-0.4	1.6	-0.3
Mar-19	0.1	0.1	0.0	0.2	0.4	-0.3	0.8	1.1	-0.6	1.1	0.4	-1.5	-0.1
April-19	-0.6	-0.1	-0.3	-0.1	-0.1	0.7	-3.3	-4.5	3.2	-2.9	-0.6	-0.6	-0.2
May-19	0.3	0.1	0.2	0.2	0.1	-0.4	1.0	0.9	0.0	1.2	2.7	0.5	-0.1
Jun-19	0.2	0.4	0.3	0.4	0.1	0.6	0.0	0.0	0.1	-0.3	0.3	-1.4	0.0
Jul-19	0.4	0.4	0.5	0.1	0.1	1.0	-0.1	0.1	-0.8	-0.7	-0.4	1.3	0.1
Aug-19	-0.2	-0.1	0.1	0.3	0.0	-1.2	-0.6	-0.8	-1.3	0.3	1.2	-0.1	0.1
Sep-19	0.1	0.0	-0.2	0.0	-0.3	0.7	0.1	-0.5	-0.1	6.7	0.7	1.3	0.0
Oct-19	0.2	0.4	0.6	0.2	0.5	0.4	0.2	0.5	2.8	-6.4	-1.0	-2.4	0.0
Nov-19	-0.3	-0.4	-0.5	0.4	-0.7	-1.5	-1.1	-1.5	0.3	0.7	0.3	2.3	0.0
Dec-19	0.1	0.2	0.3	0.1	0.1	0.7	-0.2	0.0	-1.9	-2.5	1.0	-0.2	0.1
Jan-20	0.1	0.2	0.1	0.2	0.8	-1.1	-0.1	0.2	-3.5	0.3	1.1	0.2	-0.1
Feb-20	-0.1	0.0	0.3	0.0	-0.5	-0.3	-0.1	0.2	-1.2	-0.5	-1.7	-2.2	-0.1
Mar-20	-5.9	-6.2	-2.2	-7.2	-14.0	-6.2	-4.2	-4.6	-1.5	-11.4	-0.6	-5.8	-0.2
Apr-20	-20.4	-19.0	-11.1	-21.7	-37.3	-18.4	-20.3	-24.3	-9.5	-12.3	-5.3	-40.2	-5.4
May-20	4.5	4.2	2.2	-0.8	23.0	4.7	4.3	4.9	2.8	7.5	1.7	15.1	-6.7
Jun-20	-1.4	-1.7	-0.4	-4.2	-1.3	-1.8	1.1	1.5	-0.8	1.3	0.7	-4.0	-4.6

## Health warning

The NIESR GDP Tracker provides a rolling monthly forecast for GDP growth. Our first estimate of growth for any particular quarter starts in the first month of that quarter and is then updated each month until the first official release in the second month of the following quarter. So, for example, our first estimate of growth in the first quarter of 2020 is published this month and will then be updated four times (in February, March, April and May) before the ONS publishes its first estimate for the first quarter of 2020 in May 2020. In other words, we publish four estimates of GDP for any particular quarter before the official release and change them as new evidence becomes available.

NIESR's short-term predictions of monthly GDP growth are based on bottom-up analysis of recent trends in the monthly sub-components of GDP. These predictions are constructed by aggregating statistical model forecasts of ten sub-components of GDP. The statistical models that have been developed make use of past trends in the data as well as survey evidence to build short-term predictions of the sub-components of monthly GDP. These provide a statistically-based guide to current trends based on the latest available data. Each month these predictions are updated as new ONS data and new surveys become available.

It is important to stress that the timelier NIESR guide to quarterly GDP growth is less reliable than the subsequent ONS data releases as its data content is lower, particularly for estimates of the current quarter which in some months will be based only on forecasts rather than hard data. To mitigate this issue, NIESR provides a guide to average errors based on past performance. NIESR also provides clear guidance on how the latest news has caused its estimates of GDP growth in the current and preceding quarter to change and thereby quantify how the short-term outlook is being affected by recent data releases.

As the bottom-up methodology for producing estimates of GDP growth for the current and preceding quarters is still relatively new, we do not yet have a long track record of estimates produced by this approach. To check how our methodology would work in real time we went back to late 2016 to produce judgement-free forecasts of GDP growth in future months based on the monthly data series available for the components in November 2016 (this was the earliest vintage then available on the ONS website) and in each subsequent three months. These are shown in Table 2, which has been updated to include estimates since we started producing the GDP Tracker in July 2018. We calculate the forecast quarter-on-quarter growth rates for the current quarter and compare these to the ONS first estimates of quarterly growth. The average absolute error for the quarters considered was 0.2 % points. The largest error was for 2019Q2 when our GDP tracker in May pointed to growth of 0.3 per cent, 0.5% points higher than the ONS first estimate of GDP growth. As shown in figure 2, we correctly revised our estimate of 2019Q2 growth down to -0.2 per cent in June when monthly GDP figures for April indicated a fall in output.

**Table 2 Forecast Error Analysis: Quarterly GDP growth (%)**

Quarter	ONS first estimate	ONS latest	NIESR nowcast*	Error in NIESR nowcast**	ONS latest – first
2016Q4	0.6	0.6	0.7	-0.1	0.0
2017Q1	0.3	0.6	0.6	-0.3	0.3
2017Q2	0.3	0.3	0.4	-0.1	0.0
2017Q3	0.4	0.3	0.4	0.0	-0.1
2017Q4	0.5	0.4	0.4	0.1	-0.1
2018Q1	0.1	0.1	0.5	-0.4	0.0
2018Q2	0.4	0.5	0.0	0.4	0.1
2018Q3	0.6	0.6	0.5	0.1	0.0
2018Q4	0.2	0.2	0.4	-0.2	0.0
2019Q1	0.5	0.7	0.2	0.3	0.2
2019Q2	-0.2	-0.2	0.3	-0.5	0.0
2019Q3	0.3	0.5	0.2	0.1	0.2
2019Q4	0.0		0.2	-0.2	
2020Q1			0.2		
Average absolute error				0.22	0.08

**Notes for editors**

For further information please contact the NIESR Press Office: [press@niesr.ac.uk](mailto:press@niesr.ac.uk) or Luca Pieri on [l.pieri@niesr.ac.uk](mailto:l.pieri@niesr.ac.uk) / Chloe Ridyard [c.ridyard@niesr.ac.uk](mailto:c.ridyard@niesr.ac.uk) / 079 305 44631

National Institute of Economic and Social Research

2 Dean Trench Street  
Smith Square  
London, SW1P 3HE  
United Kingdom

Switchboard Telephone Number: 020 7222 7665

Website: <http://www.niesr.ac.uk>