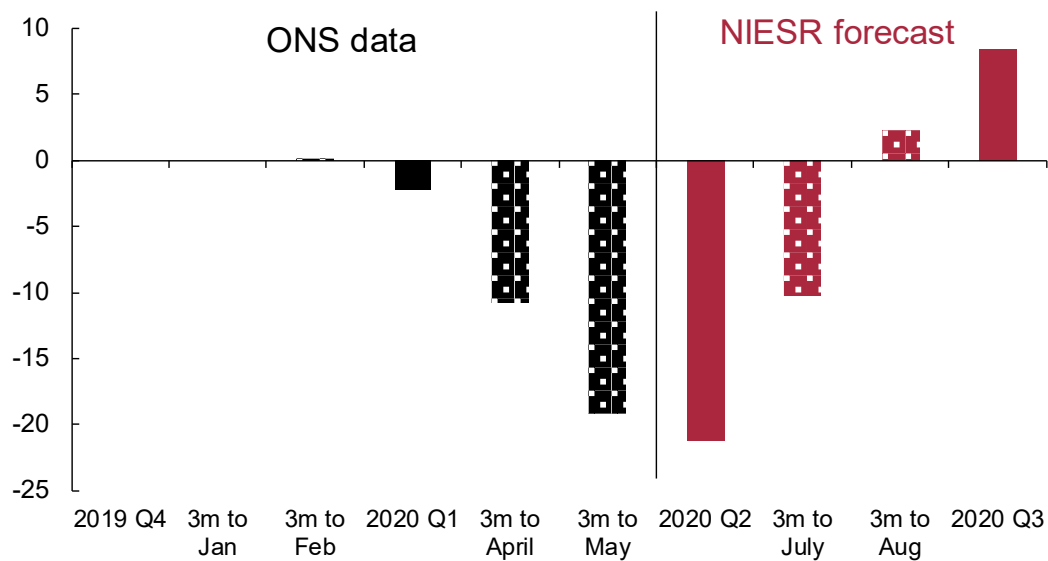# Slow recovery from 20 per cent output contraction

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

Main points

- The UK economy remains on course to decline by 20 to 25 per cent in the second quarter of 2020.

- According to the ONS estimate published this morning, the UK economy contracted by 19.1 per cent in the three months to May, broadly in line with what we forecast last month (figure 1). The contraction in growth reflects widespread negative contributions across all major sectors.

- The economy grew by 1.8 per cent in May itself but output remained 25 per cent below its February level.

- The initial outlook for the third quarter of 2020 is for growth of about 8 to 10 per cent.

"The latest ONS estimates suggest that GDP grew by 1.8 per cent in May as the economy started to reopen. However, GDP in May was 25 per cent smaller than in February before lockdown measures were implemented, and we are doubtful about a V-shaped recovery. The loosening of Covid-19 restrictions has provided an impetus to kickstart the UK economy. However, the measures unveiled by the Chancellor at the Summer Statement are a poorly timed change of tack and could trigger a sharp rise in unemployment, and possibly lead to permanent long-term damage to the economy."

Dr Kemar Whyte
Senior Economist - Macroeconomic Modelling and Forecasting

Economic setting

The economic outlook for the UK remains extremely uncertain and depends critically on how well Covid-19 is managed, amid the re-opening of the economy. The economic environment is precarious as GDP fell by almost 20 per cent in the three months to May. The closure of businesses, construction sites, and factories halting production to contain the spread of the virus caused GDP to collapse at an unprecedented rate. The first quarter of 2020 saw output decline by 2.2 per cent, the sharpest decline in over 40 years. The anticipated decline in the second quarter has pushed the economy into a deep recession, the first since the global financial crisis over a decade ago.

GDP is expected to be around 10 per cent smaller this year, and as such, the government would likely need to borrow around £300 billion, which would represent around 15 per cent of pre-Covid-19 GDP. The amount could be even higher if there were to be a second wave of the virus and lockdown measures were to be reintroduced. The public debt has risen to become larger than the size of the economy for the first time since 1963, following the government's record borrowing of £55 billion in May. However, despite the widening deficit, borrowing costs for the government have fallen to record lows, making it less costly for the state to raise debt.

The Coronavirus Job Retention Scheme (CJRS), which covered some 80 per cent of wages of temporarily laid off staff, has kept a lid on the level of job losses during the pandemic. However, the measures recently unveiled by the Chancellor to help boost the economy are poorly timed and could in fact trigger a sharp rise in unemployment. Prematurely ending key support measures, such as the CJRS, could lead to permanent long-term damage to the economy if those who become unemployed, as a result, were to lose their skills and attachment to the labour market.

Figure 2 - UK GDP levels

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 19.1 per cent in the three months to May. Figure 3 shows how our short-term forecasts for recent quarters have changed as new information has become available.

Figure 3 - Evolution of the NIESR quarterly GDP forecast (3 months on previous 3 months, per cent)
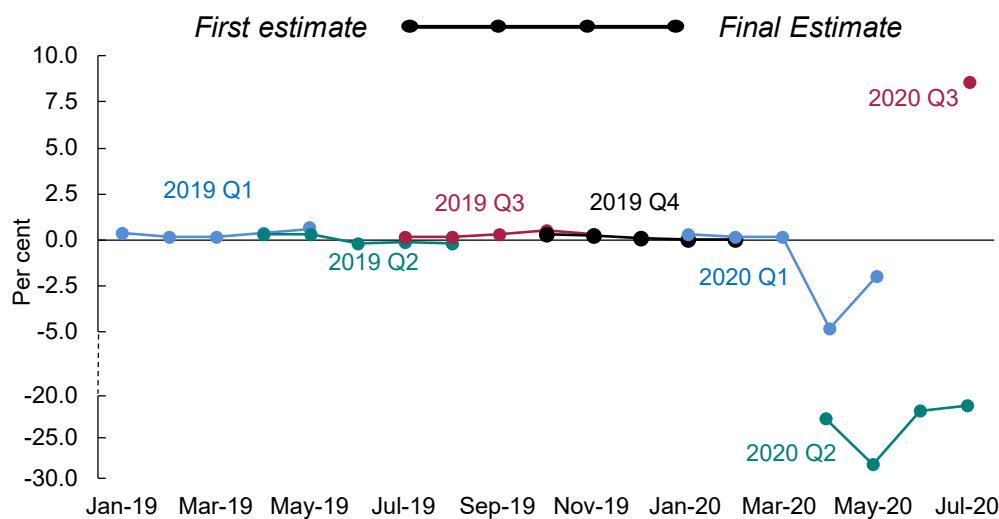
Figure 4 shows a heat map of the data surprises across sectors in the monthly data, relative to last month's GDP Tracker, highlighting the sectors where the surprises are large relative to the volatility of the output data. This month, there were negative surprises in business services, distribution, hotels and restaurants, electricity, construction, and transport, storage and communication. Positive surprises were seen in manufacturing, government and agriculture.

Figure 4 - Surprises in monthly data

	05/19	06/19	07/19	08/19	09/19	10/19	11/19	12/19	01/20	02/20	03/20	04/20	05/20
Business services and finance	-0.1	0.0	0.0	0.0	-0.2	0.0	-0.3	0.1	-0.1	0.0	2.0	3.6	-2.3
Government	0.0	0.0	0.2	0.2	-0.1	0.0	0.1	0.1	0.1	0.0	-1.7	4.5	0.5
Distribution , Hotels and Restaurants	0.0	0.0	0.0	0.0	-0.1	0.0	-0.1	-0.2	0.1	-0.1	1.1	4.2	-2.0
Transport, Storage and Communication	-0.1	0.1	0.0	-0.3	0.1	0.0	-0.4	0.2	-0.3	-0.2	4.1	1.8	-1.7
Manufacturing	-0.2	-0.1	0.2	-0.2	0.1	0.3	-0.7	0.0	0.1	0.3	3.7	-2.0	1.5
Electricity	1.2	0.0	-0.4	-0.5	0.3	0.3	-0.1	-0.4	-1.5	-1.0	2.9	-2.0	-1.8
Extraction	0.0	-0.1	-0.1	-0.1	0.4	-0.7	0.3	-0.7	0.3	-0.3	-3.4	-2.8	-0.6
Water Supply, Sewerage, Waste Management	0.6	0.0	1.0	0.4	0.0	-1.2	-0.7	0.6	1.0	-1.1	0.6	-3.2	-1.1
Construction	0.1	0.0	0.0	0.0	0.0	-0.7	0.2	-0.1	-0.2	-0.5	2.6	-3.6	-1.5
Agriculture	0.0	-0.1	0.0	-0.1	-0.2	0.2	-0.2	-0.8	0.8	-0.8	0.0	-4.4	0.5

⟵   below expectation   above expectation ⟶

-3   -1   0   1   2

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 19.1 per cent in the three months to May. The decline in growth in the last three months was underpinned by widespread contractions across the economy. The growth forecast for the second quarter of 2020 is predicated on a significant negative effect of the COVID-19 virus (figure 5). This shows output contracting by 20-25 per cent and implies a level of GDP similar to that of 2002. Our initial forecast for the third quarter of 2020 is for growth of about 8 to 10 per cent.

Figure 5 - Contributions to quarterly GDP growth (percentage points)
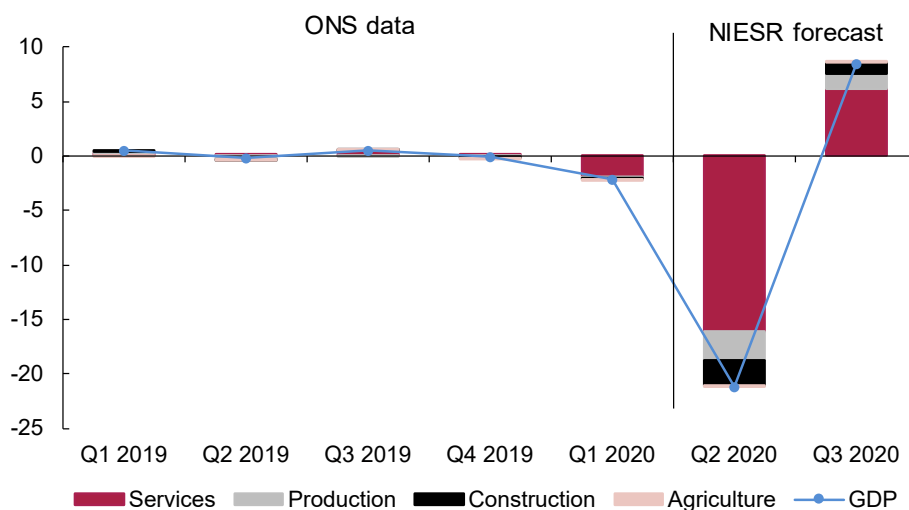
Services (80 per cent of GDP)

According to the latest ONS data, the services sector fell by 18.9 per cent in the three months to May, largely in line with what 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 71.0 per cent, food and beverage services which fell by 69.3 per cent, and education which fell by 37.8 per cent due to school closures. There was also a large contraction in health, which fell by 31.4 per cent largely because of reduced activity in elective operations. Growth in the service sector is on course to decline by over 20.0 per cent in the second quarter of 2020 (figure 6). Based on recent developments we expect service sector growth to be 7.7 per cent in the third quarter of 2020.

Figure 6 - ONS service sector growth (3 months on previous 3 months, per cent) compared with swathe of business survey balances (standardised)
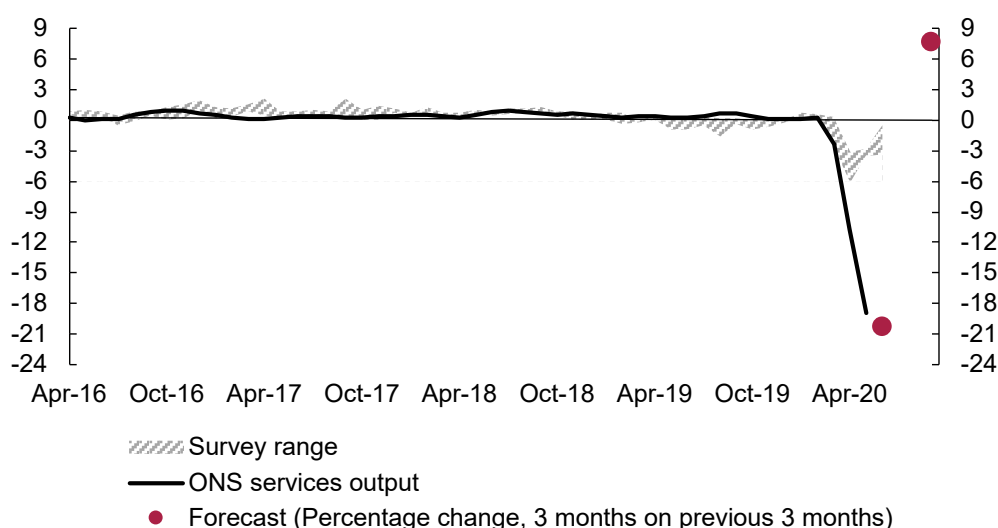
Note: The shaded swathe shows the highest and lowest values each month of a range of business survey balances that have been standardised so that they have the same mean and standard deviation as the quarterly growth of the ONS series. Source: ONS, CBI, Markit, Bank of England Agents, EC, NIESR calculations.

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 47.1 in June, up sharply from 29.0 in May. Survey evidence once again cited subdued demand and Covid-19 related disruptions as factors restricting business activity in June. Globally, Services Activity Index registered at 48.0 in June, up by a record 12.9 points from 35.1 in May.

Production (14 per cent of GDP)

Production output fell by 15.5 per cent in the three months to May, a slightly weaker decline than we anticipated last month. The decline in production is driven by widespread falls across all manufacturing industries. We estimate that production will contract by 19.1 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 18.0 per cent in the three months to May. Manufacturing industries experienced widespread decline over the last three-month period, with 12 out of 13 sub-sector experiencing contraction. The most notable was the manufacture of transport equipment, which fell by 45. 7 per cent. Our central forecast is for a contraction of about 22.0 per cent in the second quarter of 2020. Our initial forecast for the third quarter is for manufacturing to grow by 11.4 per cent.

Figure 7 - ONS manufacturing sector growth (3 months on previous 3 months, per cent) compared with swathe of business survey balances (standardised)
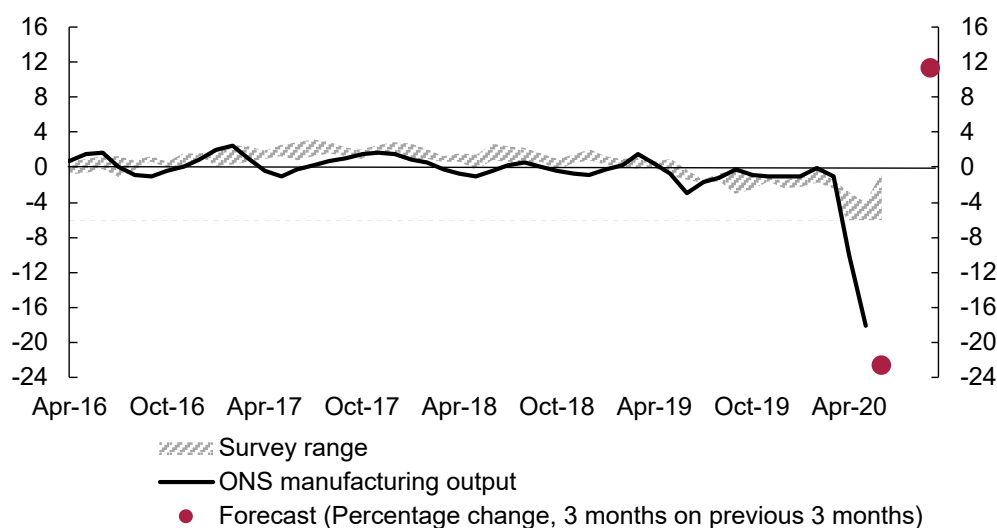
Note: The shaded swathe shows the highest and lowest values each month of a range of business survey balances that have been standardised so that they have the same mean and standard deviation as the quarterly growth of the ONS series. Source: ONS, CBI, Markit, Bank of England Agents, EC, NIESR calculations.

The IHS Markit/CIPS UK manufacturing PMI rose slightly for the first time in four months. The index increased to 50.1 in June, up from 40.7 in May, and indicating a stabilisation in operating conditions. The slight increase has been attributed to businesses reopening, and the

expectation of further easing of Covid-19 restrictions. There is also hope that markets will rebound nationally and internationally to help recover growth lost in the crisis.

The J.P.Morgan Global Manufacturing Output rose by a record 5.4 points to 47.8 in June, up from 42.4 in May. 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 10.7 per cent in the three months to May, owing largely to shutdowns and reduced oil and gas demand. We now forecast a 9.9 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 a record 29.8 per cent in the three months to May, largely consistent with what we had forecast last month. The decline reflects record falls in all sectors apart from infrastructure. The main contributors to this decline were private new housing and private commercial, which fell by 42.5 per cent and 29.5 per cent, respectively. We estimate construction output to decline by 40.0 per cent in second quarter of 2020. We anticipate growth of around 18.0 per cent in the third quarter of 2020.

The IHS Markit/CIPS construction PMI survey rose to 55.3 in June, up from 28.9 in May, signalling a marked increase in total construction output. The improvement in construction output has been linked to the reopening of the UK construction supply chain following closures in previous months.

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
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	104.7	104.8	102.8	102.7	108.1	111.5	102.5	103.2	96.7	105.2	102.1	107.4	101.7
Feb-19	105.0	105.1	103.1	103.0	108.3	111.7	102.6	103.7	93.1	107.8	102.1	109.6	101.4
Mar-19	105.1	105.1	103.1	103.1	108.4	111.3	103.7	105.0	92.4	113.1	102.5	108.4	101.3
April-19	104.6	105.0	102.8	102.9	108.3	112.2	100.5	100.4	95.4	108.1	102.9	108.4	101.2
May-19	104.8	105.1	103.0	103.1	108.4	111.7	101.5	101.3	95.9	108.6	105.3	108.5	101.2
Jun-19	105.0	105.5	103.4	103.6	108.5	112.6	101.4	101.2	96.3	108.0	105.0	106.8	101.3
Jul-19	105.4	105.9	103.9	103.7	108.7	113.7	101.2	101.4	94.9	107.3	104.2	108.3	101.4
Aug-19	105.3	105.9	103.9	104.0	108.7	112.3	100.5	100.6	93.1	107.6	105.3	108.2	101.5
Sep-19	105.3	105.8	103.8	104.0	108.4	112.8	100.5	100.1	92.7	114.6	105.5	108.8	101.4
Oct-19	105.5	106.2	104.2	104.1	108.9	113.1	100.9	100.7	96.3	106.8	104.7	106.6	101.3
Nov-19	105.1	105.8	103.9	104.5	108.2	111.4	100.0	99.1	97.6	108.8	105.2	107.9	101.3
Dec-19	105.3	106.1	104.3	104.6	108.0	112.3	99.8	99.2	95.7	106.5	105.6	107.5	101.4
Jan-20	105.5	106.2	104.4	104.9	108.9	110.9	100.0	99.8	92.0	107.7	106.7	108.8	101.5
Feb-20	105.5	106.2	104.7	104.8	108.4	111.3	100.3	100.7	91.1	107.4	104.7	106.8	101.6
Mar-20	98.2	98.2	102.2	92.1	92.7	105.2	96.0	95.4	89.8	100.1	105.4	101.0	100.7
Apr-20	78.2	79.7	91.0	72.5	57.7	85.4	76.5	72.1	81.8	91.3	98.2	60.4	95.2
May-20	79.6	80.3	90.0	72.5	65.0	84.7	81.1	78.2	79.7	95.9	98.7	65.4	89.3
Jun-20	85.8	87.5	99.2	75.5	74.1	92.7	82.1	78.9	80.4	96.8	99.9	71.8	85.6
Jul-20	87.8	88.6	101.0	75.9	74.4	93.8	87.7	84.8	84.9	100.3	105.7	77.6	88.9
Aug-20	88.1	88.9	101.0	76.1	75.2	94.7	87.8	84.9	85.1	100.8	105.8	77.6	90.3
Sep-20	88.3	89.1	101.1	76.4	75.5	94.8	88.3	85.5	85.7	101.0	106.0	77.7	92.5
Percentage change, 3 months on previous 3 months													
Mar-19	0.5	0.4	-0.3	0.5	1.1	1.3	0.8	1.5	-1.5	-0.2	-1.0	1.6	-1.2
April-19	0.4	0.4	-0.1	0.4	0.8	0.9	0.2	0.4	-2.1	2.7	-0.2	2.0	-0.9
May-19	0.2	0.3	0.0	0.3	0.6	0.4	-0.3	-0.7	-0.2	3.0	1.2	1.0	-0.5
Jun-19	-0.1	0.2	0.1	0.3	0.1	0.6	-1.7	-2.9	1.9	-0.4	2.1	-0.5	-0.2
Jul-19	0.2	0.4	0.4	0.5	0.2	0.8	-0.9	-1.7	2.2	-1.6	2.3	-0.9	0.0
Aug-19	0.4	0.7	0.7	0.7	0.2	1.0	-0.9	-1.1	0.2	-2.1	1.2	-0.6	0.2
Sep-19	0.5	0.6	0.8	0.7	0.2	0.7	-0.4	-0.3	-2.4	1.5	0.6	0.5	0.2
Oct-19	0.3	0.4	0.5	0.5	0.1	0.1	-0.7	-0.8	-1.7	1.6	0.3	0.0	0.1
Nov-19	0.1	0.2	0.2	0.4	-0.1	-0.4	-0.5	-1.1	0.8	2.3	0.3	0.0	-0.1
Dec-19	0.0	0.2	0.3	0.5	-0.2	-0.6	-0.5	-1.0	3.2	-2.2	0.2	-1.0	-0.1
Jan-20	-0.1	0.1	0.2	0.6	-0.3	-1.1	-0.7	-1.1	1.1	-1.8	0.6	0.2	0.0
Feb-20	0.1	0.2	0.5	0.5	-0.1	-0.8	-0.4	-0.1	-2.7	-2.6	0.5	-0.1	0.2
Mar-20	-2.1	-2.4	-0.4	-3.6	-4.6	-2.8	-1.5	-1.0	-5.8	-2.1	0.4	-1.7	-0.1
Apr-20	-10.8	-10.7	-4.7	-14.2	-20.4	-9.8	-9.0	-10.0	-7.9	-7.5	-2.9	-17.3	-2.2
May-20	-19.1	-18.9	-9.6	-24.6	-33.8	-17.7	-15.5	-18.0	-9.9	-10.7	-4.6	-29.8	-6.3
Jun-20	-21.2	-20.3	-10.0	-26.9	-36.5	-19.7	-19.1	-22.6	-11.4	-9.9	-6.3	-37.6	-11.1
Jul-20	-10.2	-9.7	-2.6	-16.9	-17.5	-10.1	-8.0	-9.8	-6.8	-2.0	-1.3	-19.9	-11.3
Aug-20	2.2	2.7	6.4	-4.0	3.9	2.2	1.6	1.2	-0.4	3.7	3.0	0.1	-7.2
Sep-20	8.5	7.7	8.2	3.6	14.4	7.8	10.1	11.4	5.7	6.4	7.0	17.9	0.6
Percentage change, month on same month in previous year													
Mar-19	2.3	2.3	0.7	1.6	5.2	5.6	0.9	1.8	-10.7	13.7	1.4	5.1	-1.4
April-19	1.5	1.8	0.1	1.3	4.0	5.9	-1.8	-2.2	-3.3	-0.1	2.5	3.7	-1.3
May-19	1.4	1.5	0.3	1.4	2.5	4.8	-0.4	-1.7	4.6	2.0	3.3	2.6	-1.2
Jun-19	1.3	1.8	0.6	1.7	2.5	5.2	-1.5	-2.5	2.1	1.5	0.4	0.2	-0.6
Jul-19	1.3	1.9	0.9	1.8	1.7	6.1	-1.9	-2.0	-2.4	-3.4	-0.1	1.5	-0.3
Aug-19	1.2	1.7	1.0	1.9	2.0	3.0	-2.5	-2.6	-4.0	-4.0	1.3	1.8	-0.3
Sep-19	1.2	1.5	1.0	1.8	2.2	2.6	-2.0	-2.8	-2.3	6.1	1.2	1.5	-1.0
Oct-19	1.1	1.6	0.8	1.7	2.0	3.3	-1.5	-1.8	0.1	-4.1	1.0	-1.0	-1.7
Nov-19	0.5	1.0	0.5	2.1	0.5	1.3	-2.2	-3.4	2.0	0.8	1.9	0.6	-1.7
Dec-19	1.1	1.5	1.3	1.9	1.2	1.5	-1.8	-2.8	1.2	-0.7	2.6	2.2	-0.6
Jan-20	0.8	1.3	1.6	2.1	0.7	-0.5	-2.4	-3.3	-4.9	2.4	4.5	1.3	-0.2
Feb-20	0.5	1.0	1.6	1.7	0.1	-0.4	-2.2	-2.9	-2.1	-0.4	2.5	-2.6	0.2
Mar-20	-6.6	-6.6	-0.9	-10.7	-14.5	-5.5	-7.4	-9.1	-2.8	-11.5	2.8	-6.8	-0.6
Apr-20	-25.2	-24.1	-11.5	-29.5	-46.7	-23.9	-23.9	-28.2	-14.3	-15.5	-4.6	-44.3	-5.9
May-20	-24.0	-23.6	-12.6	-29.7	-40.0	-24.2	-20.1	-22.8	-16.9	-11.7	-6.3	-39.7	-11.8
Jun-20	-18.3	-17.0	-4.0	-27.1	-31.7	-17.6	-19.0	-22.1	-16.5	-10.4	-4.9	-32.7	-15.5
Jul-20	-16.7	-16.3	-2.8	-26.8	-31.5	-17.5	-13.4	-16.4	-10.6	-6.5	1.5	-28.3	-12.3
Aug-20	-16.3	-16.0	-2.7	-26.8	-30.8	-15.7	-12.6	-15.6	-8.6	-6.4	0.5	-28.3	-11.1
Sep-20	-16.1	-15.8	-2.6	-26.6	-30.4	-16.0	-12.1	-14.6	-7.5	-11.8	0.5	-28.6	-8.7
Percentage change, month on previous month													
Mar-19	0.1	0.0	0.0	0.1	0.1	-0.4	1.1	1.3	-0.8	4.9	0.4	-1.1	-0.1
April-19	-0.5	-0.1	-0.3	-0.2	-0.1	0.8	-3.1	-4.4	3.2	-4.4	0.4	0.0	-0.1
May-19	0.2	0.1	0.2	0.2	0.1	-0.4	1.0	0.9	0.5	0.5	2.3	0.1	0.0
Jun-19	0.2	0.4	0.4	0.5	0.1	0.8	-0.1	-0.1	0.4	-0.6	-0.3	-1.6	0.1
Jul-19	0.4	0.4	0.5	0.1	0.2	1.0	-0.2	0.2	-1.5	-0.6	-0.8	1.4	0.1
Aug-19	-0.1	0.0	0.0	0.3	0.0	-1.2	-0.7	-0.8	-1.9	0.3	1.1	-0.1	0.1
Sep-19	0.0	-0.1	-0.1	0.0	-0.3	0.4	0.0	-0.5	-0.4	6.5	0.2	0.6	-0.1
Oct-19	0.2	0.4	0.4	0.1	0.5	0.3	0.4	0.6	3.9	-6.8	-0.8	-2.0	-0.1
Nov-19	-0.4	-0.4	-0.3	0.4	-0.6	-1.5	-0.9	-1.6	1.3	1.9	0.5	1.2	0.0
Dec-19	0.2	0.3	0.4	0.1	-0.2	0.8	-0.2	0.1	-1.9	-2.1	0.4	-0.4	0.1
Jan-20	0.2	0.2	0.1	0.3	0.8	-1.2	0.2	0.6	-3.9	1.1	1.0	1.2	0.1
Feb-20	0.0	0.0	0.3	-0.1	-0.5	0.4	0.3	0.9	-1.0	-0.3	-1.9	-1.8	0.1
Mar-20	-6.9	-7.5	-2.4	-12.1	-14.5	-5.5	-4.3	-5.3	-1.4	-6.8	0.7	-5.4	-0.9
Apr-20	-20.4	-18.8	-11.0	-21.3	-37.8	-18.8	-20.3	-24.4	-8.9	-8.8	-6.8	-40.2	-5.5
May-20	1.8	0.8	-1.1	0.0	12.7	-0.8	6.0	8.5	-2.6	5.0	0.5	8.3	-6.2
Jun-20	7.8	9.0	10.2	4.1	14.0	9.5	1.3	0.8	0.8	0.9	1.2	9.9	-4.2
Jul-20	2.3	1.2	1.8	0.6	0.4	1.2	6.8	7.5	5.6	3.6	5.8	8.0	4.0
Aug-20	0.3	0.4	0.0	0.3	1.0	0.9	0.2	0.1	0.3	0.5	0.1	0.0	1.5
Sep-20	0.2	0.2	0.0	0.3	0.4	0.1	0.6	0.6	0.7	0.3	0.2	0.2	2.5

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 or Luca Pieri on
l.pieri@niesr.ac.uk / press@niesr.ac.uk / +44 (0) 7930 544 631

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