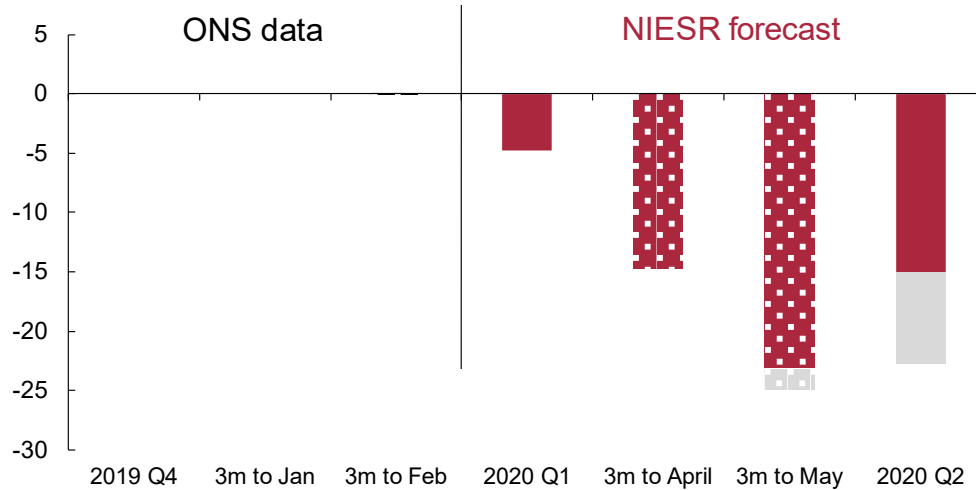## GDP COULD CONTRACT BY 15 TO 25 PER CENT IN SECOND QUARTER

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

Note: Grey and Burgundy bars show high and low scenarios.

Main points

- Once in a century event poses major threat to UK growth. The UK economy could now see growth decline by 5% in the first quarter of 2020, and if a lockdown continues, by around 15% to 25% in the second quarter (figure1.)
- According to new ONS statistics published this morning, the UK economy expanded by 0.1 per cent in the three months to February, only marginally weaker than what we had forecast last month.
- Output declined in February itself, mainly due to a large fall in the construction sector.
- We project growth for March to give a Q1 view and also a view on Q2. The lockdown is causing the largest contraction in economic activity since 1921.
- Lockdowns reduce overall activity by around 20% in every month of their operation with larger effects possible in other sectors, particularly if the lockdowns are prolonged.

"The UK economy is now almost certain to experience a major contraction in the second quarter of the year. The forceful impact of COVID-19 and the global lockdown has thrust the economy into unknown territory where we could see GDP declining at a record quarterly rate. Nonetheless, instant and significant recovery remain a distinct possibility if the spread of the virus comes to halt quickly."

Dr Kemar Whyte

**Senior Economist - Macroeconomic Modelling and Forecasting**

Economic setting

The UK economy is facing enormous upheaval as a result of the country being placed in lockdown to halt the spread of the COVID-19 virus. In response to the threat posed to the economy by the pandemic, the government has announced a raft of support measures including tax cuts, grants and mortgage holidays.

Nobody can be certain how long the pandemic will last. As such, it is difficult to form a judgement on what the state of economy will be in the near to medium term. The purpose of this Tracker is not to make any highly specific or detailed numerical forecast. Rather, it aims to provide a general indication of the likely environment in which forward-looking policy needs to be formulated.

It appears that an extremely deep contraction is imminent that would make previous quarterly growth fluctuations seem insignificant (figure 1a). At present there is little reliable data to gauge the likely scale of economic contraction experienced so far. Surveys carried out in March report record contractions in activity, and with large parts of the economy closed an unprecedented decline in output is widely expected. To provide a benchmark for future official data releases, we have calibrated the possible pace of decline largely by informed guesses on the scale of decline in the different industrial sectors of the economy assuming a shorter and a longer lockdown period (Tables 1a and 1b). This points to a contraction in GDP of around 5 per cent in the first quarter and a fall of between 15 and 25 per cent in the second quarter.

Figure 1a - Gross Domestic Product: Quarter on Quarter growth
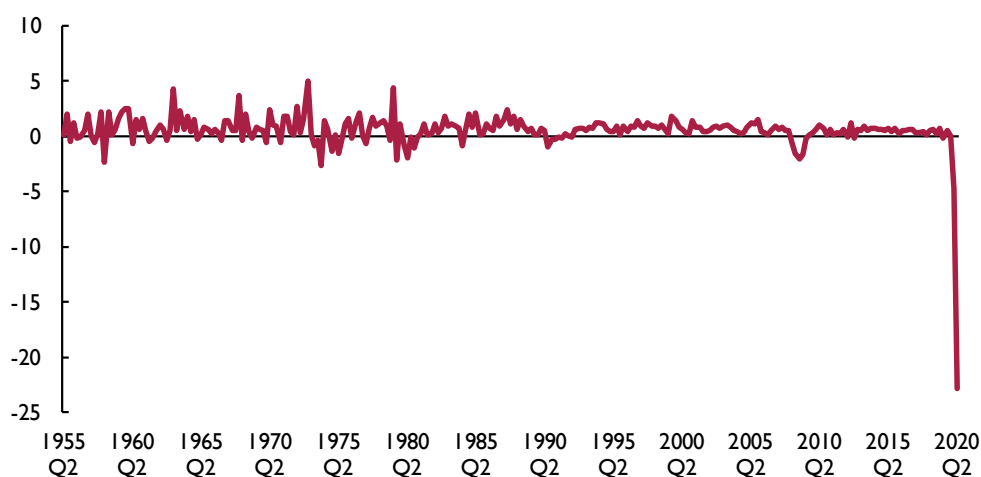
Source: ONS, NIESR GDP Tracker.

We have assumed that output is reduced during a lockdown period by the following amounts in the different sectors: business services and finance: 10 per cent; government: 10 per cent; distribution etc: 40 per cent; transport etc: 40 per cent; manufacturing: 30 per cent; mining and quarrying: 5 per cent; water supply: 5 per cent; construction:40 per cent; agriculture: 0 per cent. The ranking of declines is broadly consistent with ONS survey evidence from the 9-22

March. The survey found that the main sectors from those surveyed who have seen turnover lower than normal and attributed this as a result of the coronavirus (COVID-19) were: manufacturing; wholesale and retail trade; accommodation and food services and that the main sectors that reported unaffected turnover in this period were: professional, scientific and technical activities; information and communication services. Other evidence points to sharp falls in the transport sector.

A key question is whether the economy will recover quickly when the virus is brought under control. History points towards some cause for optimism. A look back at data from the interwar years shows that the largest quarter-on-quarter (Q/Q) fall (1921Q2, 12.3 per cent) in GDP, due partly to a miners' strike, was instantly followed by the largest ever Q/Q increase (1921Q3, 13.7 per cent), in history.

Figure 1b - Quarter on Quarter Growth Rate in GDP at Constant Market Prices 1920-1938
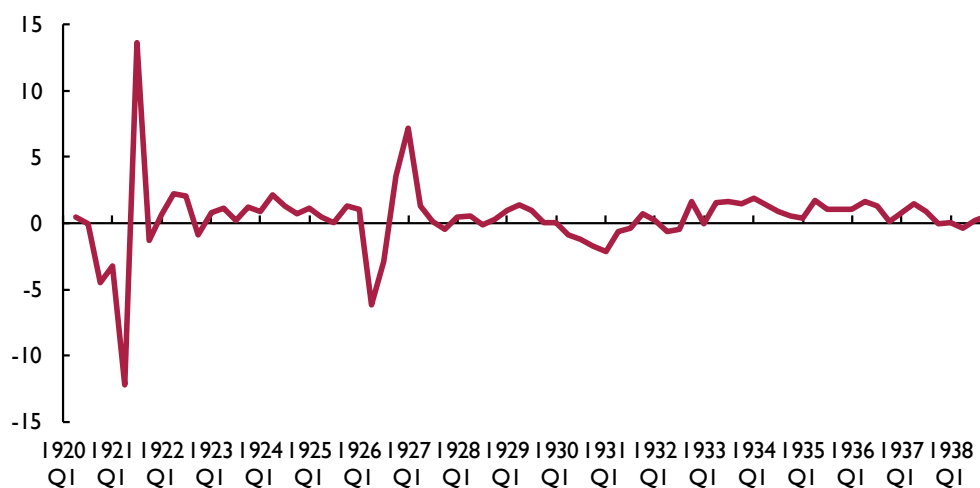
Source: Primary sources include; Accounts Relating to Trade and Navigation of the United Kingdom, Bank of England's Statistical Summary, Board of Trade Journal, Economist, Ministry of Labour Gazette and Monthly Digest of Statistics

News in latest ONS data

The latest monthly ONS data was broadly consistent with our previous expectations, with data confirming growth of 0.1 per cent in the three months to February. Figure 2 shows how our short-term forecasts for recent quarters have changed as new information has become available; the average absolute error of our estimate of quarterly GDP growth is around 0.2 per cent.

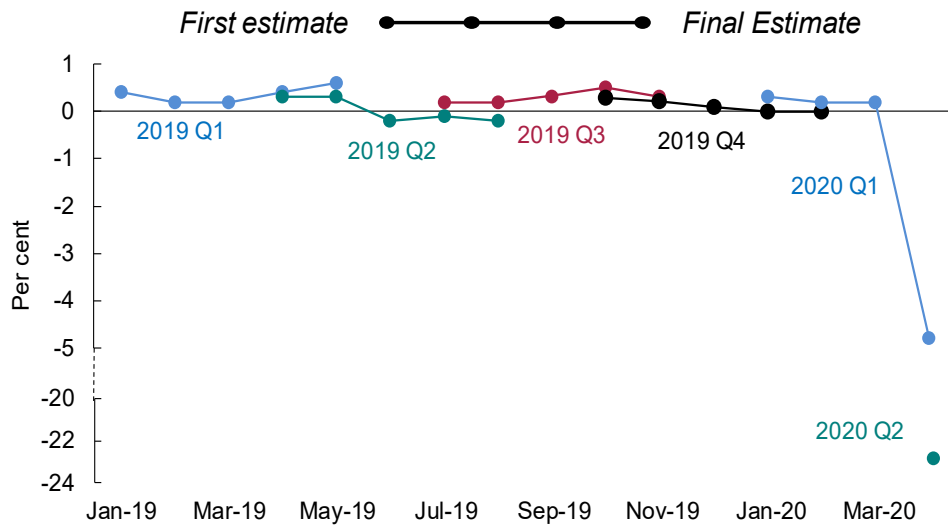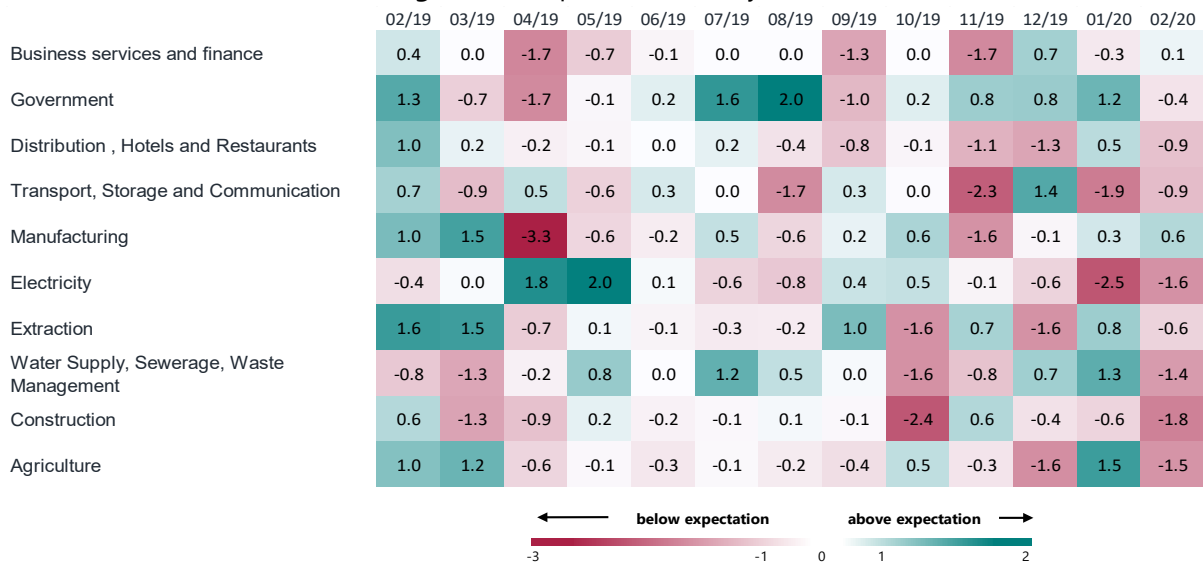**Figure 2 -** Evolution of the NIESR quarterly GDP forecast (3 months on previous 3 months, per cent)

Figure 3 shows a heat map of the data surprises across sectors in the monthly data, highlighting the sectors where the surprises are large relative to the volatility of the output data. This month, there were negative surprises in all sectors except for manufacturing and business services and finance. Construction, agriculture and electricity registered the largest negative surprises.

Figure 3 - Surprises in monthly data

	02/19	03/19	04/19	05/19	06/19	07/19	08/19	09/19	10/19	11/19	12/19	01/20	02/20
Business services and finance	0.4	0.0	-1.7	-0.7	-0.1	0.0	0.0	-1.3	0.0	-1.7	0.7	-0.3	0.1
Government	1.3	-0.7	-1.7	-0.1	0.2	1.6	2.0	-1.0	0.2	0.8	0.8	1.2	-0.4
Distribution , Hotels and Restaurants	1.0	0.2	-0.2	-0.1	0.0	0.2	-0.4	-0.8	-0.1	-1.1	-1.3	0.5	-0.9
Transport, Storage and Communication	0.7	-0.9	0.5	-0.6	0.3	0.0	-1.7	0.3	0.0	-2.3	1.4	-1.9	-0.9
Manufacturing	1.0	1.5	-3.3	-0.6	-0.2	0.5	-0.6	0.2	0.6	-1.6	-0.1	0.3	0.6
Electricity	-0.4	0.0	1.8	2.0	0.1	-0.6	-0.8	0.4	0.5	-0.1	-0.6	-2.5	-1.6
Extraction	1.6	1.5	-0.7	0.1	-0.1	-0.3	-0.2	1.0	-1.6	0.7	-1.6	0.8	-0.6
Water Supply, Sewerage, Waste Management	-0.8	-1.3	-0.2	0.8	0.0	1.2	0.5	0.0	-1.6	-0.8	0.7	1.3	-1.4
Construction	0.6	-1.3	-0.9	0.2	-0.2	-0.1	0.1	-0.1	-2.4	0.6	-0.4	-0.6	-1.8
Agriculture	1.0	1.2	-0.6	-0.1	-0.3	-0.1	-0.2	-0.4	0.5	-0.3	-1.6	1.5	-1.5

← **below expectation**   **above expectation** →

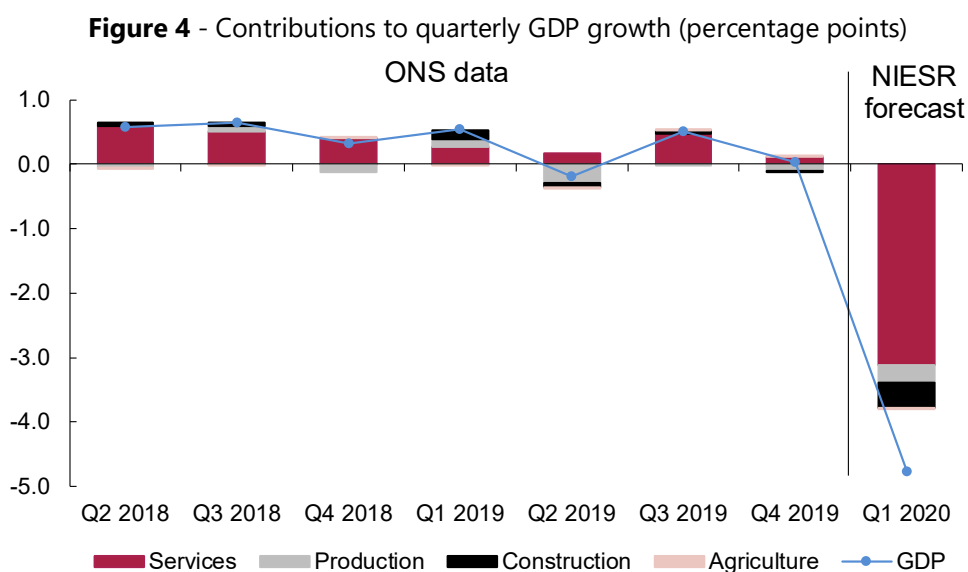-3   -1   0   1   2

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 grew by 0.1 per cent in the three months to February. Growth in the last three months was underpinned by a positive performance in the services sector, as production and construction weighed on the economy. In fact, the services sector made the sole positive contribution to growth in the three months to February, whilst the production sector remained in decline for a 10th consecutive rolling three-month period. The growth forecast for the first quarter of 2020 is now predicated on a significant negative effect of the COVID-19 virus. (figure 4).

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

ONS data   NIESR forecast

| | Services | Production | Construction | Agriculture | GDP |

Services (80 per cent of GDP)

According to ONS data, the services sector grew by 0.2 per cent in the three months to February, marginally weaker than what we predicted last month. The main contributor within the services sector was education as public sector-dominated industries continued to outperform their private-sector counterparts. We forecast growth in the service sector to decline by 4 per cent in the first quarter of 2020 (figure 5), owing largely to the negative impact of the outbreak COVID-19 in the second half of March.

Figure 5 - ONS service sector growth (3 months on previous 3 months, per cent) compared with swathe of business survey balances (standardised)
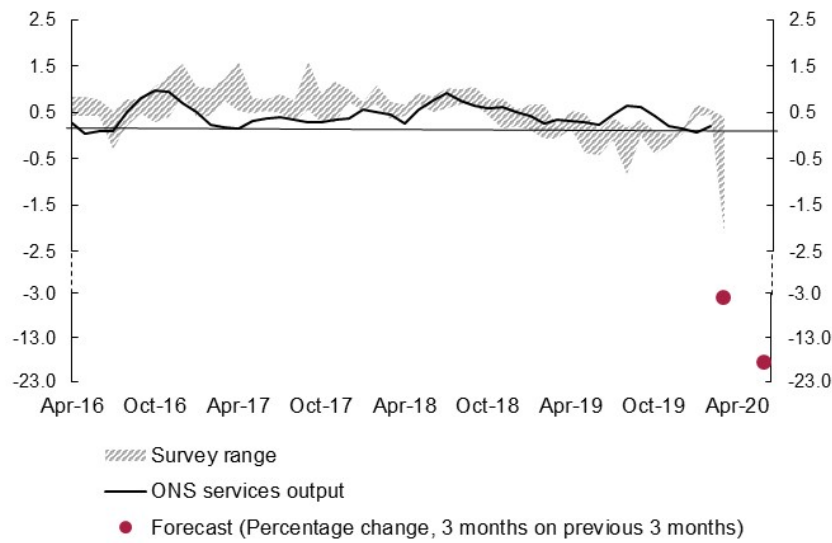
Note: The shaded swathe shows the highest and lowest values each month of a range of business survey balances that have been standardised so that they have the same mean and standard deviation as the quarterly growth of the ONS series. Source: ONS, CBI, Markit, Bank of England Agents, EC, NIESR calculations.

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 PMI recorded a survey record fall, registering at 34.5 in March, down from 53.2 in February. Survey evidence overwhelmingly suggests that the lower demand is due to a slump in business and consumer spending in light of emergency public health measures to stop the spread of COVID-19. Globally, services activity also fell drastically. The index fell to 37.0 in March, down from 47.1 in February, largely due to severe disruptions caused by the COVID-19 pandemic.

Production (14 per cent of GDP)

Production output fell by 0.6 per cent in the three months to February, largely in line with what we published last month. We have revised our first quarter forecast for the production sector to reflect effects of the coronavirus. We now estimate that production will contract by 2 per cent in the first 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 0.4 per cent in the three months to February. Manufacturing industries experienced widespread decline over the last three-month period. The impact of COVID-19 meant the manufacture of transport equipment took a major hit, mainly due to weaker exports to China. Our central forecast, which now incorporates the impact of COVID-19, is for a contraction of 4.3 per cent in the first 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)

Survey range

ONS manufacturing output

● Forecast (Percentage change, 3 months on previous 3 months)
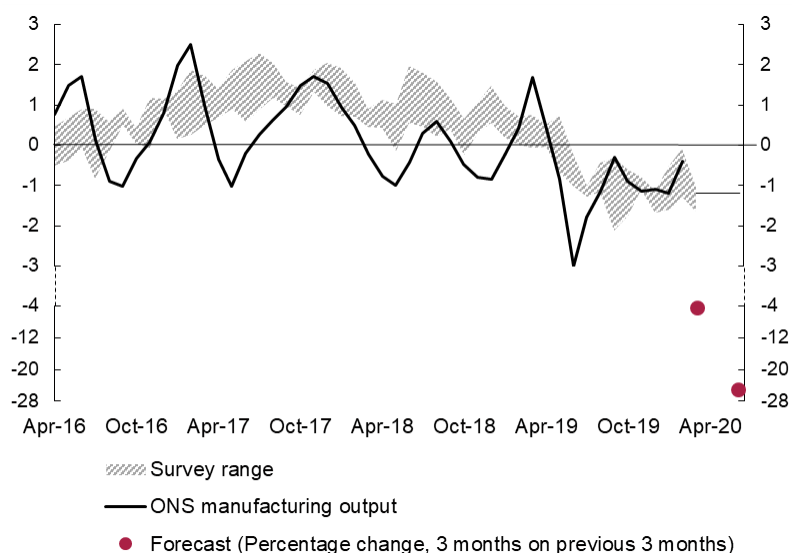
Note: The shaded swathe shows the highest and lowest values each month of a range of business survey balances that have been standardised so that they have the same mean and standard deviation as the quarterly growth of the ONS series. Source: ONS, CBI, Markit, Bank of England Agents, EC, NIESR calculations.

The IHS Markit/CIPS UK manufacturing PMI fell to 47.8 in March, down from 51.7 in February. The fall has been attributed to disruptions as result of the COVID-19 outbreak and the subsequent company shutdowns that took place. This culminated in a decline in market confidence and a subsequent fall in production and new business.

The latest CBI survey also suggest that business and consumer optimism has declined sharply, owing almost entirely to unprecedented challenges brought on by the COVID-19 virus.

The J.P.Morgan Global Manufacturing Output rose marginally to 47.6 in March, up from 47.1 in February, owing almost entirely to a recovery in the China PMI – which rose to 50.1, from 40.3 in February. If the index were to exclude Mainland China, the PMI would register at 46.6 in March, levels not seen since the GFC.

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 3.9 per cent in the three months to February. We now forecast a 0.2 per cent growth in output in the first quarter of 2020.

Construction (6 per cent of GDP)

Output in the construction sector fell by 0.2 per cent in the three months to February, contrasting the positive outlook we had forecast last month. The decline reflects a 5.6 per cent fall in private housing repair and maintenance. For the month of February, the construction industry fell by 1.7 per cent, with the main contributor to the fall being private new housing. Adverse weather conditions in February may have contributed to this contraction. We have now revised our forecast to a contraction of 6.6 per cent in construction output in the first quarter of 2020.

The latest data from the IHS Markit/CIPS construction PMI survey signalled a major fall in the construction PMI, with the headline business activity balance at 39.3 in March, down from 52.6 in February. Much like other industries, survey evidence largely attributed the decline in activities to the ongoing COVID-19 pandemic. Construction firms faced reduced capacity and stock shortages as COVID-19 ramped up supply chain pressures in March.

Table 1a - Summary Table of GDP growth (2016=100): longer lockdown scenario (May or beyond)

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
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	105.5	106.2	104.2	104.9	109.1	111.6	99.7	99.5	91.6	105.1	107.4	109.0	101.3
Feb-20	105.4	106.2	104.5	104.9	108.5	111.3	99.8	100.0	90.8	104.0	106.0	107.1	101.1
Mar-20	90.0	93.1	99.2	99.9	87.0	90.2	94.4	86.3	81.8	107.8	104.7	87.9	100.9
Apr-20	73.7	79.7	93.6	94.5	65.2	68.0	85.2	67.9	79.7	101.3	101.2	65.7	100.9
May-20	73.9	79.8	93.9	94.7	65.3	67.7	86.0	68.5	79.7	102.0	103.9	66.0	101.0
Jun-20	84.6	89.0	97.6	98.6	79.9	83.3	90.1	78.3	82.9	103.4	106.0	79.6	101.2

Percentage change, 3 months on previous 3 months

	GDP index	Index of Services	Business services and finance	Government and other services	Distribution, Hotels and Restaurants	Transport, Storage and Communications	Index of Production	Manufacturing	Electricity, gas, steam and air conditioning	Mining and Quarrying	Water Supply, Sewerage and Waste Management	Index of Construction	Agriculture
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	-0.8	-1.0	-1.2	0.1	-3.0	0.9	1.0	0.0
Feb-20	0.1	0.2	0.3	0.5	0.1	-0.7	-0.6	-0.4	-2.6	-3.9	1.2	-0.2	0.0
Mar-20	-4.8	-3.9	-1.4	-1.2	-6.3	-7.2	-1.9	-4.3	-7.2	0.2	0.7	-6.6	-0.2
Apr-20	-14.8	-12.3	-4.7	-4.8	-19.9	-19.7	-6.5	-14.6	-10.2	-0.8	-2.1	-20.4	-0.3
May-20	-24.9	-20.7	-8.4	-8.1	-33.2	-32.6	-11.2	-25.4	-12.7	-0.6	-3.0	-32.5	-0.3
Jun-20	-22.8	-18.6	-7.4	-7.0	-30.9	-30.0	-11.1	-24.9	-8.3	-3.2	-2.2	-30.5	-0.1

Percentage change, month on same month in previous year

	GDP index	Index of Services	Business services and finance	Government and other services	Distribution, Hotels and Restaurants	Transport, Storage and Communications	Index of Production	Manufacturing	Electricity, gas, steam and air conditioning	Mining and Quarrying	Water Supply, Sewerage and Waste Management	Index of Construction	Agriculture
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	0.7	1.3	1.4	2.1	0.9	0.0	-2.7	-3.7	-5.0	-0.1	5.3	0.6	-0.5
Feb-20	0.4	1.1	1.4	1.9	0.4	-0.3	-2.8	-3.8	-1.7	-3.3	4.3	-2.7	-0.4
Mar-20	-14.4	-11.4	-3.8	-3.2	-19.8	-19.0	-8.8	-17.9	-10.9	-0.8	2.7	-19.0	-0.4
Apr-20	-29.5	-24.1	-9.0	-8.2	-39.8	-39.3	-14.9	-32.4	-15.9	-4.0	-0.2	-39.1	-0.3
May-20	-29.5	-24.1	-8.9	-8.2	-39.8	-39.4	-15.0	-32.4	-15.8	-4.5	-0.2	-39.1	-0.1
Jun-20	-19.4	-15.6	-5.5	-4.8	-26.5	-25.9	-10.8	-22.7	-12.5	-3.0	1.5	-25.4	0.1

Percentage change, month on previous month

	GDP index	Index of Services	Business services and finance	Government and other services	Distribution, Hotels and Restaurants	Transport, Storage and Communications	Index of Production	Manufacturing	Electricity, gas, steam and air conditioning	Mining and Quarrying	Water Supply, Sewerage and Waste Management	Index of Construction	Agriculture
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	0.2	0.2	0.1	0.2	0.8	-0.7	0.3	0.4	-2.3	1.2	1.2	-0.2	-0.1
Feb-20	-0.1	0.0	0.3	0.0	-0.5	-0.3	0.1	0.5	-0.9	-1.0	-1.3	-1.7	-0.2
Mar-20	-14.6	-12.3	-5.1	-4.8	-19.8	-19.0	-5.4	-13.7	-10.0	3.6	-1.2	-17.9	-0.1
Apr-20	-18.1	-14.4	-5.6	-5.4	-25.1	-24.5	-9.7	-21.3	-2.6	-6.0	-3.3	-25.3	0.0
May-20	0.2	0.1	0.3	0.2	0.1	-0.4	0.9	0.9	0.1	0.7	2.7	0.5	0.1
Jun-20	14.6	11.5	4.0	4.2	22.3	23.0	4.9	14.3	4.0	1.4	1.9	20.6	0.2

Table 1b - Summary Table of GDP growth (2016=100): shorter lockdown scenario (lifted before May)

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					136					61	7
			339	217	133	108		102	15	6	13		
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	105.5	106.2	104.2	104.9	109.1	111.6	99.7	99.5	91.6	105.1	107.4	109.0	101.3
Feb-20	105.4	106.2	104.5	104.9	108.5	111.3	99.8	100.0	90.8	104.0	106.0	107.1	101.1
Mar-20	90.0	93.1	99.2	99.9	87.0	90.2	94.4	86.3	81.8	107.8	104.7	87.9	100.9
Apr-20	73.7	79.7	93.6	94.5	65.2	68.0	85.2	67.9	79.7	101.3	101.2	65.7	100.9
May-20	79.1	85.1	96.0	96.8	74.0	76.8	88.4	74.4	81.5	103.0	105.0	74.8	101.0
Jun-20	95.2	98.3	101.5	102.4	94.7	98.8	94.4	88.1	86.1	105.3	108.0	94.5	101.2

Percentage change, 3 months on previous 3 months													
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	-0.8	-1.0	-1.2	0.1	-3.0	0.9	1.0	0.0
Feb-20	0.1	0.2	0.3	0.5	0.1	-0.7	-0.6	-0.4	-2.6	-3.9	1.2	-0.2	0.0
Mar-20	-4.8	-3.9	-1.4	-1.2	-6.3	-7.2	-1.9	-4.3	-7.2	0.2	0.7	-6.6	-0.2
Apr-20	-14.8	-12.3	-4.7	-4.8	-19.9	-19.7	-6.5	-14.6	-10.2	-0.8	-2.1	-20.4	-0.3
May-20	-23.2	-19.0	-7.7	-7.4	-30.6	-29.9	-10.3	-23.4	-12.0	-0.3	-2.7	-29.8	-0.3
Jun-20	-17.6	-13.9	-5.5	-5.1	-23.2	-22.2	-8.8	-19.4	-6.4	-2.3	-1.2	-22.7	-0.1

Percentage change, month on same month in previous year													
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	0.7	1.3	1.4	2.1	0.9	0.0	-2.7	-3.7	-5.0	-0.1	5.3	0.6	-0.5
Feb-20	0.4	1.1	1.4	1.9	0.4	-0.3	-2.8	-3.8	-1.7	-3.3	4.3	-2.7	-0.4
Mar-20	-14.4	-11.4	-3.8	-3.2	-19.8	-19.0	-8.8	-17.9	-10.9	-0.8	2.7	-19.0	-0.4
Apr-20	-29.5	-24.1	-9.0	-8.2	-39.8	-39.3	-14.9	-32.4	-15.9	-4.0	-0.2	-39.1	-0.3
May-20	-24.5	-19.0	-6.8	-6.2	-31.8	-31.3	-12.5	-26.6	-13.9	-3.5	0.9	-30.9	-0.1
Jun-20	-9.3	-6.9	-1.8	-1.1	-12.8	-12.1	-6.6	-13.0	-9.2	-1.1	3.4	-11.5	0.1

Percentage change, month on previous month													
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	0.2	0.2	0.1	0.2	0.8	-0.7	0.3	0.4	-2.3	1.2	1.2	-0.2	-0.1
Feb-20	-0.1	0.0	0.3	0.0	-0.5	-0.3	0.1	0.5	-0.9	-1.0	-1.3	-1.7	-0.2
Mar-20	-14.6	-12.3	-5.1	-4.8	-19.8	-19.0	-5.4	-13.7	-10.0	3.6	-1.2	-17.9	-0.1
Apr-20	-18.1	-14.4	-5.6	-5.4	-25.1	-24.5	-9.7	-21.3	-2.6	-6.0	-3.3	-25.3	0.0
May-20	7.3	6.8	2.5	2.4	13.4	12.8	3.8	9.5	2.3	1.7	3.7	13.9	0.1
Jun-20	20.3	15.4	5.7	5.8	28.1	28.7	6.8	18.4	5.7	2.2	2.8	26.3	0.2

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

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