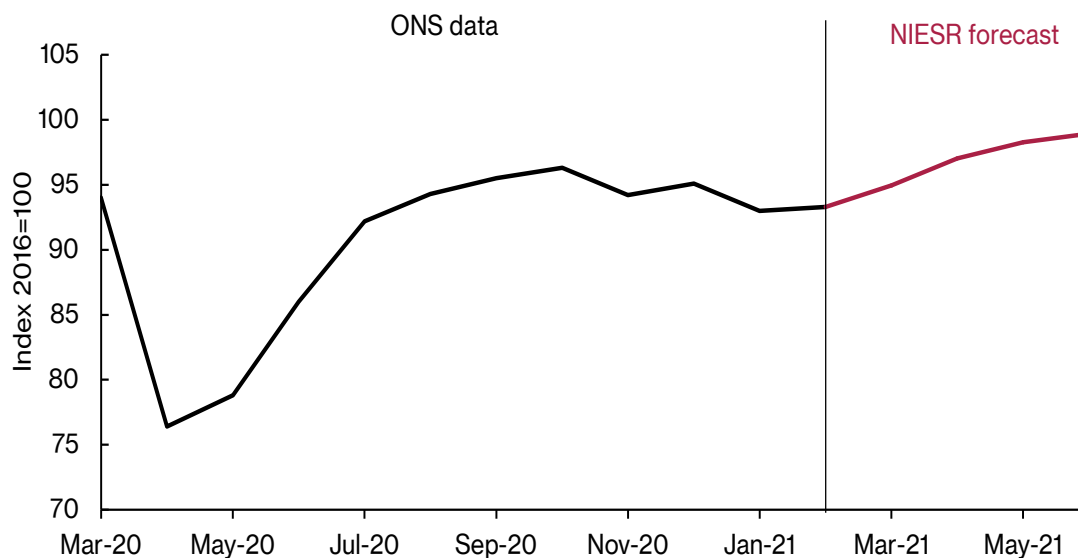## Spring sees green shoots of economic recovery

Figure 1 - UK GDP

Main points

- Indications of further recovery during March mean that GDP is likely to have fallen by around 1.5 per cent in Q1 quarter-on-quarter.

- Assuming that the vaccination and re-opening programmes continue to run to schedule, our first estimate is for growth in Q2 of 4.6 per cent, driven by pent-up demand and a return towards pre-Covid levels in the hospitality and retail sectors.

- Our month-on-month forecast for March, when many children returned to school, is for growth of 1.8 per cent. April is then forecast to see growth of 2.2 per cent, driven by the partial re-opening of pubs and restaurants.

- Compared with the first lockdown in Q2 of 2020 the effects of restrictions imposed since January have clearly been much more sector-specific. While GDP was less than 8 per cent lower than in February 2020, this is driven by large falls in a handful of sectors, with many businesses adapting to restrictions.

"Despite little change in restrictions, a return to growth in February and upward revisions to January GDP mean that the contraction in the first quarter will be much smaller than anticipated. Clearly much of the economy has adapted to cope with Covid-19 restrictions: while hospitality was down by over 50 per cent in February on a year earlier, and the arts by over a third, both manufacturing and construction were only 4 per cent smaller in February. Output in public administration, health and energy sectors was higher than a year earlier. If the vaccine programme and lifting of restrictions continue on schedule this provides a firm basis for continuing growth in the second quarter and 2021 overall. The third wave in Europe and the success of other countries in vaccinating their populations will also have relevance for the recovery of the UK, as an open economy."

Rory Macqueen

**Principal Economist - Macroeconomic Modelling and Forecasting**

Economic setting

The background to today's GDP release is increasing optimism that the second quarter of 2021 will see stronger growth than previously expected, partly thanks to a rapid roll-out of the vaccination programme in the UK. This recovery would follow a first quarter during which renewed lockdown restrictions are likely to have seen GDP fall.

Recent GDP revisions suggest that the fall in the second quarter of 2020 was larger than previously believed, at 19.5 per cent, but that subsequent growth was stronger in the third quarter (16.9 per cent) and fourth quarter (1.3 per cent). In Q4 government consumption and inventory-building ahead of the Brexit transition's end helped to compensate for a fall in household consumption.

The outlook for 2021 overall largely depends on the success in combating the pandemic, with the length and stringency of social distancing restrictions key to the growth outlook. The success of other countries in vaccinating their populations will also have relevance for the UK's recovery, as a relatively small and open economy. In our latest National Institute UK Economic Outlook, our forecast for 2021 is for year-on-year growth of 3.4 per cent. Our next forecast for 2021 and beyond will be published on May 10th and will incorporate the latest data, which turned out better than expected due to decreased sensitivity of certain sectors to lockdown, as well as the extension of fiscal support announced at the Budget in early March.

Figure 2.1 – UK daily Covid-19 statistics

Deaths within 28 days of a positive test (LH scale)
Patients admitted to hospital (RH scale)
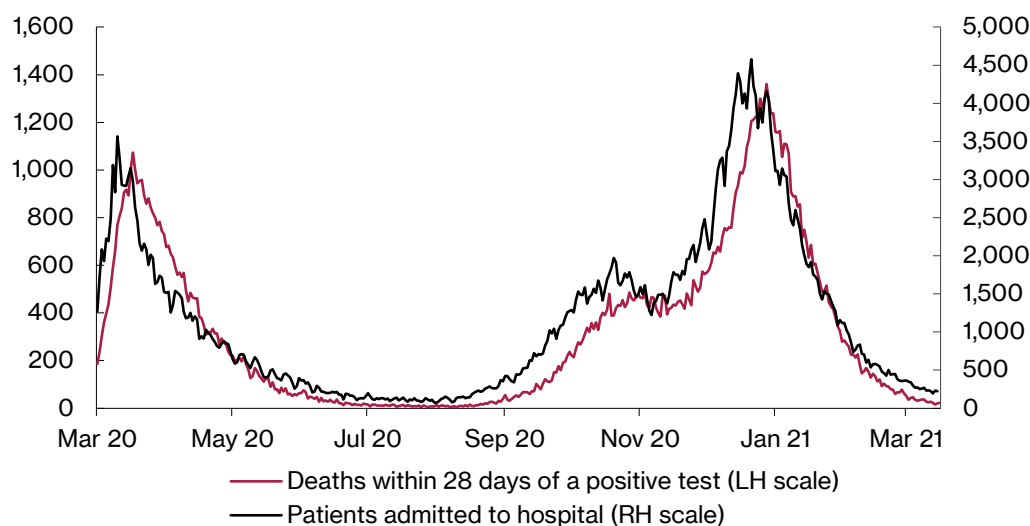
Source: Data.gov.uk. See coronavirus.data.gov.uk for further information.

Figure 2.2 – Google Mobility Indicators
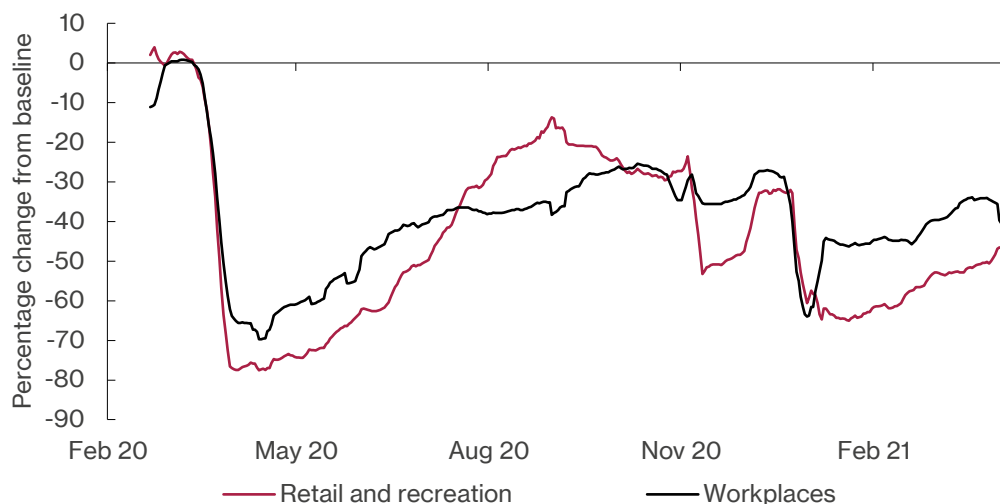
Source: Google, NIESR. Note: Baseline is median value for the day of the week Jan 3 - Feb 6 2020. Seven-day rolling average.

Figure 2.3 – Spending and hiring indicators
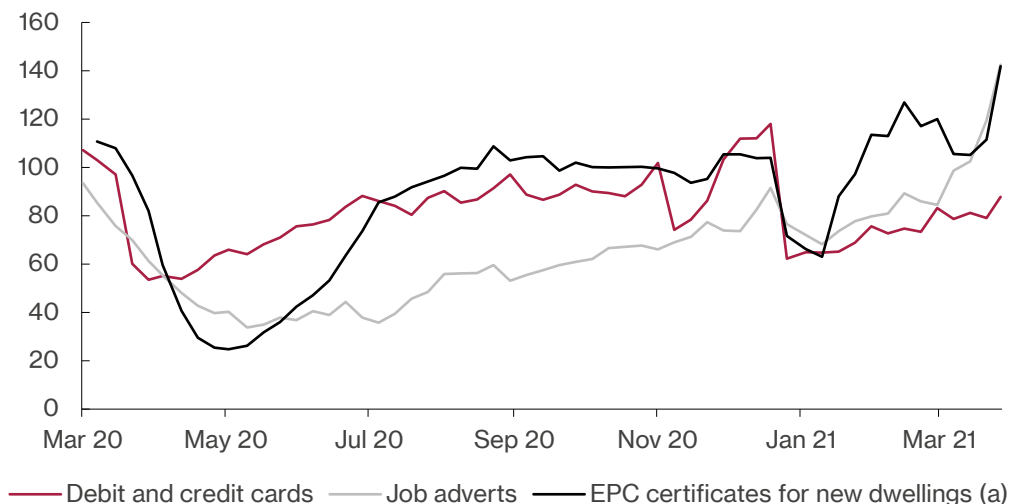
(a) England and Wales
Source: ONS, BoE, Adzuna, MHCLG. Debit and credit cards: 100 = February 2020, percentage change on a backward looking seven-day rolling average, non-seasonally adjusted, nominal prices. Job adverts: change from the same week in the previous year. EPC certificates: change from the same week in the previous year, four-week rolling average, adjusted for timing of December holiday.

Covid-19 deaths and infections have continued to fall in the past month and the NIESR Covid Tracker estimates that R-number to be in the range 0.75-0.85. High frequency indicators suggest that economic activity continued to pick up in March, with many children returning to school and restrictions on outdoor meetings being lifted. Vacancies data and surveys confirm

a degree of business optimism, which bodes well for the remaining stages of lifting restrictions. Card spending remains around 20 per cent below baseline, though this is likely to be disproportionately due to the sectors which we know are worst affected.

Figure 3 – UK GDP growth (3 months on previous 3 months, per cent)
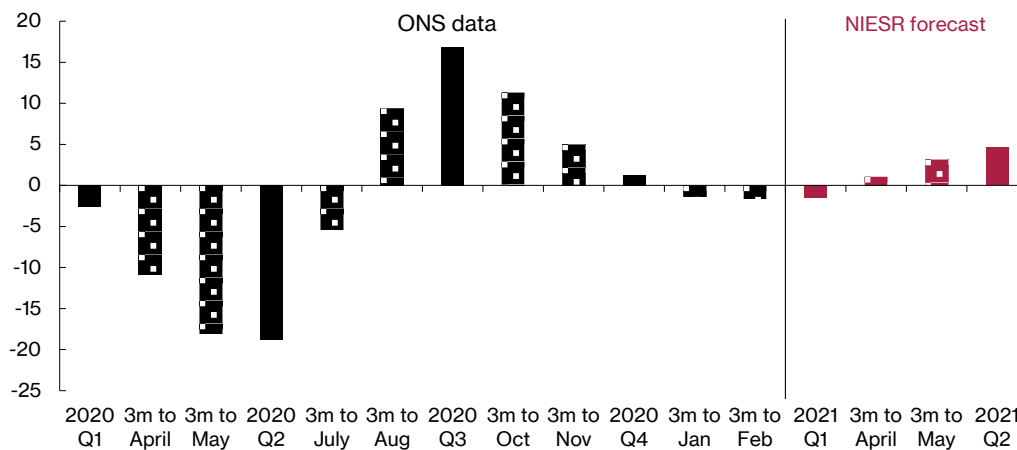
News in latest ONS data

The latest monthly ONS data were in line with the forecast in our March Tracker, indicating that GDP grew by 0.4 per cent in February 2021. Figure 4 shows how our short-term forecasts for recent quarters have changed as new information has become available.

Figure 4 - Evolution of the NIESR quarterly GDP forecast (3 months on previous 3 months, per cent)
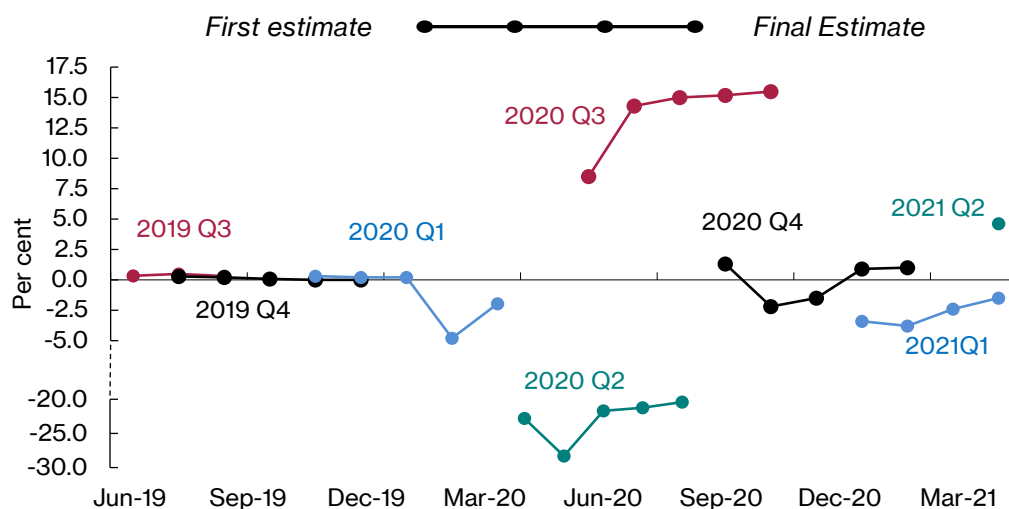
Figure 5 shows a heat map of the data surprises across sectors in the monthly data, relative to last month's GDP Tracker, highlighting the sectors where the surprises are large relative to the volatility of the output data. This month, positive surprises were seen in manufacturing, utilities and distribution, hotels and restaurants. Negative surprises were seen in extraction and government.

Figure 5 - Surprises in monthly data

	02/20	03/20	04/20	05/20	06/20	07/20	08/20	09/20	10/20	11/20	12/20	01/21	02/21
Business services and finance	-0.2	1.2	3.1	-1.2	-3.0	0.4	-0.7	0.6	0.5	2.9	0.5	0.5	0.1
Government	-0.2	-2.3	3.3	0.7	0.3	1.2	0.6	0.8	-0.2	-1.1	-0.2	3.5	-0.7
Distribution , Hotels and Restaurants	-0.1	0.7	3.2	-1.6	2.8	0.7	0.7	0.0	-0.1	3.0	-1.3	-0.7	0.5
Transport, Storage and Communication	-0.1	3.0	1.9	-0.8	-0.3	-0.6	-0.4	-0.2	0.5	4.2	-0.3	1.0	-0.3
Manufacturing	0.2	2.4	-2.0	1.4	4.1	0.4	0.3	1.0	0.5	0.4	0.9	-0.1	0.6
Electricity	-0.9	3.3	-1.7	-0.5	1.1	1.6	-0.4	-0.3	-0.7	0.2	-1.9	1.4	0.4
Extraction	-0.1	-2.8	-0.6	-1.4	1.9	-1.1	-1.4	-1.0	0.3	-0.9	-0.8	-0.3	-0.7
Water Supply, Sewerage, Waste Management	-0.3	1.2	-3.5	-0.9	3.0	0.3	-0.9	0.2	0.1	0.1	-0.2	1.2	0.9
Construction	-0.2	2.6	-3.3	-0.3	1.8	0.8	0.9	0.5	0.3	2.8	1.0	0.1	0.3
Agriculture	-1.2	-1.7	-3.6	2.7	2.1	-0.1	0.8	0.9	0.2	0.4	0.4	0.0	0.1

← 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 1.6 per cent in the three months to February, compared with the three months previously. This was main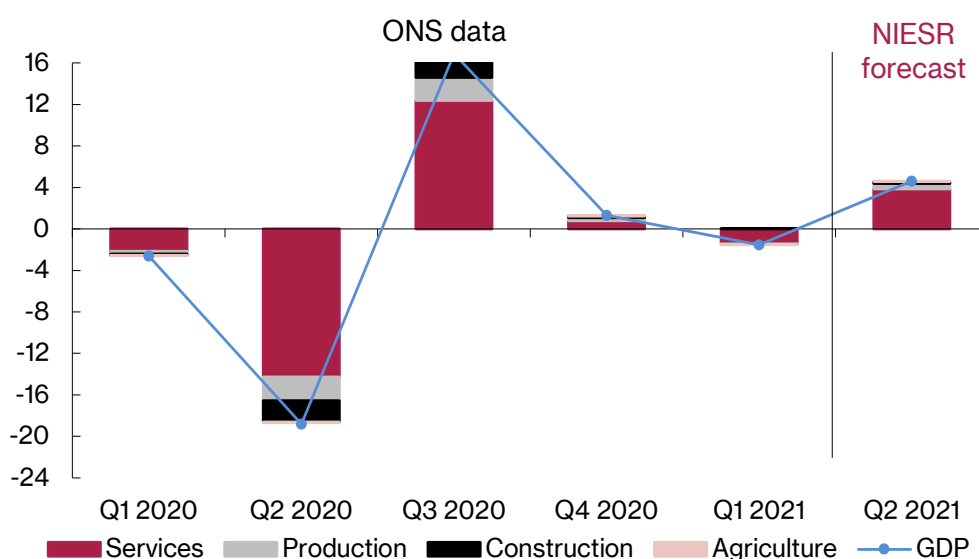ly driven by the distribution, hotels and restaurants sector, which includes hospitality and retail. Our forecast for the first quarter of 2021 is for output to decline by 1.5 per cent followed by an increase of 4.6 per cent in the second quarter.

Figure 6 - Contributions to quarterly GDP growth (percentage points)

Services (80 per cent of GDP)

According to the latest ONS data, the services sector shrank by 1.9 per cent in the three months to February, a smaller fall than the 2.4 per cent we expected a month ago. Business services and finance was the only of the four sectors to see growth. Based on recent developments we expect service sector activity to decline by 1.8 per cent in the first quarter of 2021 quarter-on-quarter (figure 7), followed by an increase of 4.8 per cent in the second quarter.

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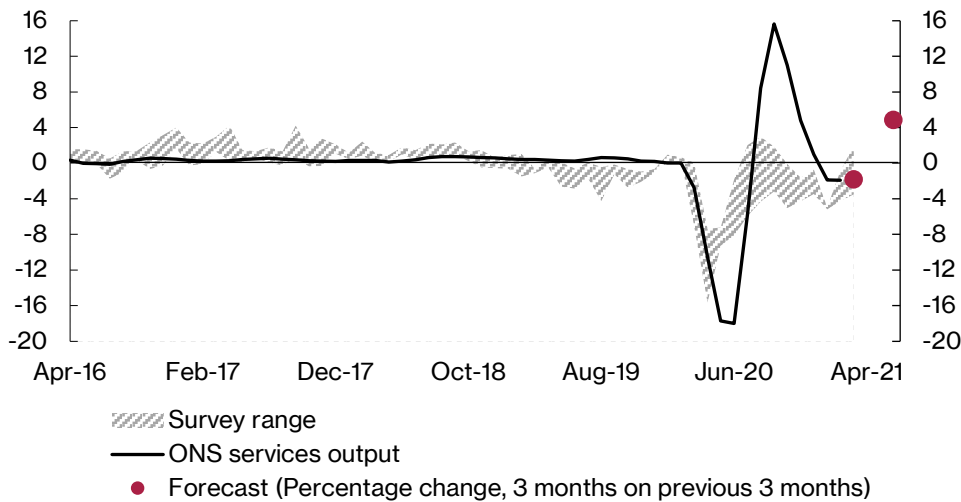
Note: The shaded swathe shows the highest and lowest values each month of a range of business survey balances that have been standardised so that they have the same mean and standard deviation as the quarterly growth of the ONS series.
Source: ONS, CBI, Markit, Bank of England Agents, EC, NIESR calculations.

The survey balances point to a pick-up in services activity in March, as shown by the swathe of survey indicators in figure 7. The headline business activity balance in the IHS Markit/CIPS UK services PMI came in at 56.3 in March, up from 49.5 in February, with activity, new orders and employment all picking up. This was linked to increased business and consumer spending, higher residential property transactions, with pent-up demand playing a part. Internationally, the JPMorgan Global Services Business Activity Index rose to 54.8 in March, a 79-month high.

Production (14 per cent of GDP)

Production output fell by 0.1 per cent in the three months to February, slightly stronger than we forecast a month ago. This drop was principally driven by manufacturing. We estimate that production declined by 0.5 per cent in the first quarter of 2021 and will grow by 3.9 per cent in the second quarter, 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 declined by 0.5 per cent in the three months to February. Seven out of the thirteen manufacturing sub-sectors grew in February. Our forecast for the first quarter of 2021 is for manufacturing to decline by 0.9 per cent, followed by growth of 4.8 per cent in the second quarter.

Figure 8 - ONS manufacturing sector growth (3 months on previous 3 months, per cent) compared with swathe of business survey balances (standardised)
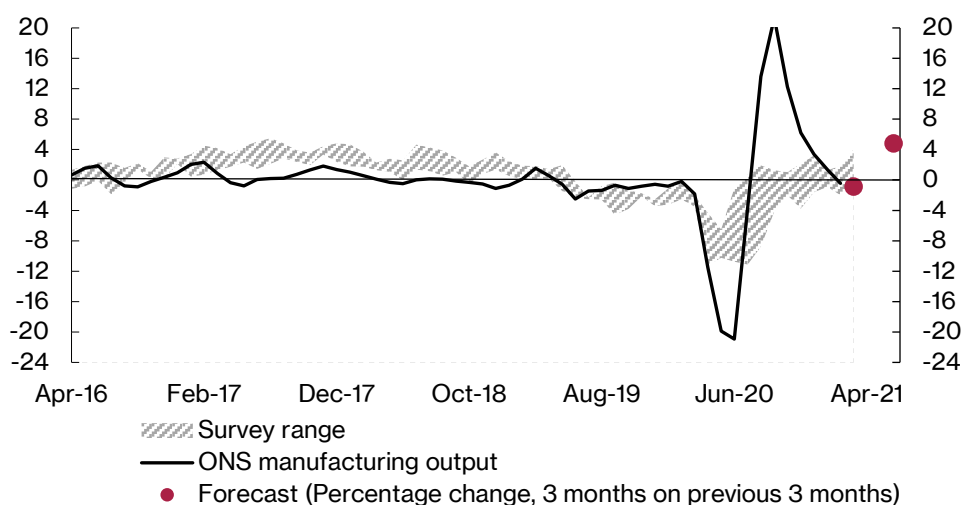
Note: The shaded swathe shows the highest and lowest values each month of a range of business survey balances that have been standardised so that they have the same mean and standard deviation as the quarterly growth of the ONS series.
Source: ONS, CBI, Markit, Bank of England Agents, EC, NIESR calculations.

The IHS Markit/CIPS UK manufacturing PMI rose to 58.9 in March, up from 55.1 in February and a ten-year high, supported by improved growth of output, new orders and employment. Consumer goods manufacturing returned to growth, alongside strong growth in investment and intermediate goods.

The JPMorgan Global Manufacturing Output rose to 55.0, also a ten-year high.

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 continued to fall, contracting by 2.3 per cent in the three months to February. We now forecast a decline of 0.7 per cent in the first quarter of 2021 and growth of 3.6 per cent in the second quarter.

Construction (6 per cent of GDP)

Output in the construction sector fell by 1.0 per cent in the three months to February, in line with we had forecast a month ago. The main contributors to this were new work in private commercial, private new housing and private industrial. We anticipate output to grow by 0.6 per cent in the first quarter of 2021 and by 2.8 per cent in the second quarter.

The IHS Markit/CIPS construction PMI survey accelerated further in March, rising to 61.7 from 53.3 in February. Housebuilding was the fastest growing sub-sector but there were rises in commercial and civil engineering as well.

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

2016=100	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
Latest weights	1000	796	339	217	133	108	136	102	15	6	13	61	7
Sep-19	101.6	102.1	100.7	102.1	102.5	106.2	98.2	96.9	99.2	106.3	100.8	102.5	108.5
Oct-19	101.9	102.5	101.1	102.3	102.9	106.6	98.8	98.0	103.7	99.1	99.7	100.2	108.9
Nov-19	101.5	102.2	100.7	102.8	102.5	105.0	97.6	96.2	104.1	99.6	99.5	101.3	109.0
Dec-19	101.5	102.3	101.0	102.9	102.2	105.2	97.2	96.3	101.8	96.4	100.1	100.2	108.9
Jan-20	101.6	102.4	101.0	103.3	102.9	104.3	97.5	96.9	99.1	96.5	101.0	99.8	108.0
Feb-20	101.3	102.1	100.8	102.6	102.5	104.2	97.6	97.4	98.3	96.3	100.3	99.2	105.1
Mar-20	94.0	94.1	98.4	89.6	87.0	98.5	92.5	90.9	98.1	90.4	101.0	95.8	100.0
Apr-20	76.4	78.4	89.3	74.4	53.8	83.3	74.2	68.0	89.8	88.4	93.3	55.9	89.4
May-20	78.8	79.9	89.0	75.6	60.8	84.2	78.9	74.0	90.9	90.6	93.5	63.5	89.9
Jun-20	86.0	86.5	92.2	79.6	80.2	91.0	87.2	83.5	94.7	97.5	99.0	76.1	91.3
Jul-20	92.2	92.5	93.8	87.8	94.4	95.2	92.1	89.7	99.5	94.8	100.1	89.6	93.4
Aug-20	94.3	94.6	94.2	91.5	100.3	95.2	93.0	91.4	99.7	91.2	99.7	92.5	95.2
Sep-20	95.5	96.0	95.5	95.6	97.7	96.0	93.5	92.5	99.1	88.8	100.0	94.2	96.9
Oct-20	96.3	96.8	96.4	96.8	96.4	98.8	94.2	93.6	97.6	89.5	100.1	94.9	96.8
Nov-20	94.2	93.9	95.8	94.2	85.8	97.8	95.0	94.9	98.8	85.6	100.1	95.5	96.2
Dec-20	95.1	95.2	96.9	95.1	89.7	97.6	95.0	94.3	99.5	89.2	101.4	93.4	94.8
Jan-21	93.0	92.9	96.0	92.8	81.5	97.6	93.3	92.1	99.6	87.3	101.6	93.4	93.4
Feb-21	93.3	93.1	96.3	91.9	84.1	96.6	94.2	93.3	100.1	85.5	103.0	94.9	91.7
Mar-21	95.0	94.7	96.3	95.3	86.9	98.1	95.3	94.9	100.1	85.5	103.0	97.2	91.7
Apr-21	97.0	97.0	96.7	97.3	96.2	98.3	96.6	96.3	100.1	89.2	103.0	97.7	94.8
May-21	98.3	98.3	97.2	97.9	101.1	99.3	98.2	98.2	101.1	89.2	103.5	97.7	94.8
Jun-21	98.9	99.0	97.7	98.2	102.5	100.0	99.1	99.2	102.1	89.2	104.0	98.2	94.8

Percentage change, 3 months on previous 3 months

2016=100	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
Sep-19	0.4	0.6	0.8	0.6	0.2	0.8	-0.6	-0.7	-2.6	2.4	-0.5	0.2	2.4
Oct-19	0.3	0.5	0.5	0.7	0.1	0.6	-0.8	-1.1	-1.4	3.4	-1.1	-0.6	2.3
Nov-19	0.1	0.2	0.0	0.7	0.0	0.3	-0.3	-0.8	1.1	4.5	-1.4	-0.7	1.8
Dec-19	0.0	0.2	0.0	0.8	-0.1	-0.2	-0.3	-0.6	3.4	-1.9	-1.1	-1.8	1.1
Jan-20	-0.2	0.0	-0.1	0.8	-0.1	-1.1	-0.8	-0.8	0.8	-3.6	-0.3	-1.2	0.2
Feb-20	-0.2	0.0	0.1	0.5	-0.1	-1.3	-0.8	-0.2	-2.5	-5.2	0.5	-1.6	-1.3
Mar-20	-2.6	-2.7	-0.9	-4.1	-4.9	-3.1	-2.0	-1.8	-4.6	-4.0	1.0	-2.3	-4.2
Apr-20	-10.8	-10.5	-4.7	-13.7	-20.9	-9.1	-9.6	-11.4	-6.2	-5.9	-2.0	-16.7	-9.6
May-20	-18.1	-17.7	-8.6	-22.4	-34.5	-15.2	-16.0	-19.9	-6.8	-6.8	-4.5	-28.1	-13.3
Jun-20	-18.8	-18.0	-9.9	-22.3	-33.4	-15.8	-16.4	-20.9	-6.8	-2.4	-5.5	-33.7	-13.6
Jul-20	-5.4	-5.7	-4.7	-8.9	-3.2	-5.5	-2.3	-3.6	-0.4	2.8	-0.7	-8.6	-6.8
Aug-20	9.3	8.4	1.3	8.1	36.4	5.8	10.9	13.6	5.4	5.2	3.8	20.0	0.2
Sep-20	16.9	15.6	4.8	19.7	50.1	10.8	15.9	21.3	8.3	-0.6	4.9	41.3	5.5
Oct-20	11.3	11.0	4.0	16.8	25.1	7.2	8.7	12.3	4.0	-4.7	2.5	22.9	5.2
Nov-20	5.0	4.8	2.7	10.7	1.8	4.0	3.8	6.2	0.5	-6.9	0.5	10.2	3.6
Dec-20	1.3	1.0	2.0	4.0	-7.0	2.7	2.0	3.4	-0.8	-3.8	0.6	2.7	0.8
Jan-21	-1.3	-1.9	0.9	-0.7	-12.7	1.0	0.9	1.4	0.5	-2.7	1.1	0.2	-1.6
Feb-21	-1.6	-1.9	0.5	-2.4	-8.8	-0.2	-0.1	-0.5	1.3	-0.7	1.9	-1.0	-3.4
Mar-21	-1.5	-1.8	-0.1	-2.1	-7.1	-0.6	-0.5	-0.9	1.3	-2.3	2.0	0.6	-3.8
Apr-21	1.1	1.0	0.2	0.9	4.0	0.0	1.0	1.1	0.8	-0.7	1.9	2.7	-2.2
May-21	3.1	3.2	0.4	3.8	11.4	1.3	2.7	3.5	0.7	0.7	1.1	3.9	0.5
Jun-21	4.6	4.8	1.0	4.8	18.8	1.8	3.9	4.8	1.2	3.6	1.0	2.8	2.7

Percentage change, month on same month in previous year

2016=100	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
Sep-19	1.2	1.7	0.6	2.0	2.1	4.2	-2.2	-3.7	-0.1	5.6	0.7	1.4	8.6
Oct-19	1.2	1.7	0.4	1.9	1.7	4.9	-0.7	-1.5	5.5	-2.2	-0.2	-1.3	8.7
Nov-19	0.7	1.2	0.0	2.4	0.4	2.9	-1.3	-2.7	5.9	-0.4	0.3	0.1	7.6
Dec-19	1.0	1.4	0.8	2.4	1.5	1.2	-1.7	-2.6	3.4	-2.6	0.9	1.3	5.6
Jan-20	0.6	1.2	0.9	2.7	0.9	-0.2	-2.2	-3.1	-1.8	-0.5	2.2	-1.1	4.5
Feb-20	0.0	0.8	0.4	1.8	0.4	-0.1	-2.4	-3.0	0.6	-2.8	0.7	-3.9	1.9
Mar-20	-7.3	-7.2	-1.8	-11.4	-15.0	-5.5	-8.6	-10.4	-0.2	-12.6	1.0	-6.6	-3.5
Apr-20	-24.4	-22.7	-10.7	-26.4	-47.5	-20.7	-24.4	-30.3	-11.4	-8.7	-6.9	-45.4	-14.4
May-20	-22.1	-21.2	-11.1	-25.4	-40.6	-19.5	-20.5	-24.9	-11.4	-9.1	-8.2	-38.2	-14.6
Jun-20	-15.2	-15.0	-8.2	-21.6	-21.8	-13.7	-11.9	-15.0	-8.6	0.2	-3.2	-25.0	-13.8
Jul-20	-9.3	-9.4	-7.1	-13.5	-8.2	-10.2	-6.7	-8.8	-1.1	-1.7	-0.7	-12.6	-12.5
Aug-20	-7.2	-7.4	-6.8	-10.3	-2.2	-9.6	-4.8	-5.7	0.1	-7.0	-1.4	-9.5	-11.7
Sep-20	-6.0	-6.0	-5.2	-6.4	-4.7	-9.6	-4.8	-4.5	-0.1	-16.5	-0.8	-8.1	-10.7
Oct-20	-5.5	-5.6	-4.6	-5.4	-6.3	-7.3	-4.7	-4.5	-5.9	-9.7	0.4	-5.3	-11.1
Nov-20	-7.2	-8.1	-4.9	-8.4	-16.3	-6.9	-2.7	-1.4	-5.1	-14.1	0.6	-5.7	-11.7
Dec-20	-6.3	-6.9	-4.1	-7.6	-12.3	-7.2	-2.3	-2.1	-2.3	-7.5	1.3	-6.8	-12.9
Jan-21	-8.5	-9.3	-4.9	-10.2	-20.8	-6.4	-4.3	-5.0	0.5	-9.5	0.6	-6.4	-13.5
Feb-21	-7.9	-8.8	-4.4	-10.4	-18.0	-7.3	-3.5	-4.2	1.8	-11.2	2.7	-4.3	-12.7
Mar-21	1.0	0.7	-2.1	6.4	-0.1	-0.4	3.0	4.4	2.0	-5.4	2.0	1.5	-8.3
Apr-21	27.0	23.8	8.3	30.8	78.9	18.0	30.2	41.7	11.5	0.9	10.4	74.8	6.0
May-21	24.7	23.1	9.2	29.4	66.3	18.0	24.4	32.8	11.2	-1.5	10.7	53.9	5.5
Jun-21	15.0	14.4	6.0	23.4	27.8	9.9	13.6	18.8	7.8	-8.5	5.1	29.0	3.8

Percentage change, month on previous month

2016=100	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
Sep-19	0.0	-0.1	-0.4	0.1	-0.1	0.9	0.5	0.0	-0.4	8.4	-0.3	0.3	0.6
Oct-19	0.3	0.4	0.4	0.2	0.4	0.4	0.6	1.1	4.5	-6.8	-1.1	-2.2	0.4
Nov-19	-0.4	-0.3	-0.4	0.5	-0.4	-1.5	-1.2	-1.8	0.4	0.5	-0.2	1.1	0.1
Dec-19	0.0	0.1	0.3	0.1	-0.3	0.2	-0.4	0.1	-2.2	-3.2	0.6	-1.1	-0.1
Jan-20	0.1	0.1	0.0	0.4	0.7	-0.9	0.3	0.6	-2.7	0.1	0.9	-0.4	-0.8
Feb-20	-0.3	-0.3	-0.2	-0.7	-0.4	-0.1	0.1	0.5	-0.8	-0.2	-0.7	-0.6	-2.7
Mar-20	-7.2	-7.8	-2.4	-12.7	-15.1	-5.5	-5.2	-6.7	-0.2	-6.1	0.7	-3.4	-4.9
Apr-20	-18.7	-16.7	-9.2	-17.0	-38.2	-15.4	-19.8	-25.2	-8.5	-2.2	-7.6	-41.6	-10.6
May-20	3.1	1.9	-0.3	1.6	13.0	1.1	6.3	8.8	1.2	2.5	0.2	13.6	0.6
Jun-20	9.1	8.3	3.6	5.3	31.9	8.1	10.5	12.8	4.2	7.6	5.9	19.8	1.6
Jul-20	7.2	6.9	1.7	10.3	17.7	4.6	5.6	7.4	5.1	-2.8	1.1	17.7	2.3
Aug-20	2.3	2.3	0.4	4.2	6.3	0.0	1.0	1.9	0.2	-3.8	-0.4	3.2	1.9
Sep-20	1.3	1.5	1.4	4.5	-2.6	0.8	0.5	1.2	-0.6	-2.6	0.3	1.8	1.8
Oct-20	0.8	0.8	0.9	1.3	-1.3	2.9	0.7	1.2	-1.5	0.8	0.1	0.7	-0.1
Nov-20	-2.2	-3.0	-0.6	-2.7	-11.0	-1.1	0.9	1.4	1.2	-4.4	0.0	0.6	-0.6
Dec-20	1.0	1.4	1.1	0.9	4.5	-0.1	0.0	-0.6	0.7	4.2	1.3	-2.2	-1.5
Jan-21	-2.2	-2.4	-0.9	-2.4	-9.1	0.0	-1.8	-2.3	0.1	-2.1	0.2	0.0	-1.5
Feb-21	0.3	0.2	0.3	-1.0	3.2	-1.1	1.0	1.3	0.5	-2.1	1.4	1.6	-1.8
Mar-21	1.8	1.7	0.0	3.7	3.4	1.6	1.2	1.7	0.0	0.0	0.0	2.4	0.0
Apr-21	2.2	2.4	0.4	2.1	10.7	0.2	1.4	1.5	0.0	4.3	0.0	0.5	3.4
May-21	1.3	1.3	0.5	0.5	5.1	1.0	1.6	2.0	1.0	0.0	0.5	0.0	0.0
Jun-21	0.7	0.6	0.5	0.4	1.4	0.7	0.9	1.0	1.0	0.0	0.5	0.5	0.0

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 in January 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 0.22 percentage points. The largest error was for 2020Q2 when our GDP tracker in May pointed to growth of -22.8 per cent, 2.4 points lower than the ONS first estimate of GDP growth.

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

Quarter	ONS first estimate	ONS latest estimate	NIESR nowcast*	Error in NIESR nowcast**	ONS latest – first
2016Q4	0.6	0.7	0.7	-0.1	0.1
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	0.0	0.5	-0.4	-0.1
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	0.6	0.2	0.3	0.1
2019Q2	-0.2	-0.2	0.3	-0.5	0.0
2019Q3	0.3	0.4	0.2	0.1	0.1
2019Q4	0.0	0	0.2	-0.2	0.0
2020Q1	-2.0	-2.1	0.2	-2.2	-0.1
2020Q2	-20.4	-20.4	-22.8	2.4	0.0
2020Q3	15.5	16.1	15.0	0.5	0.6
2020Q4	1.0		-2.2	3.2	
2021Q1			-3.8		
Average absolute error				0.22	0.08

Notes for editors

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