# NIESR
Monthly GDP Tracker

Rising costs set to stall growth in second quarter

Rory Macqueen

11th April 2022

"The normalisation of the economy after Covid continued in February, with monthly GDP now 1.5 per cent above its pre-pandemic level. Although the 0.1 per cent growth in February was significantly slower than January, we saw rapid growth in tourism-related sectors like hotels and travel agencies, offset by reductions in Covid-related healthcare activity and construction, which was affected by Storms Dudley, Eunice and Franklin."

Rory Macqueen
Principal Economist, NIESR
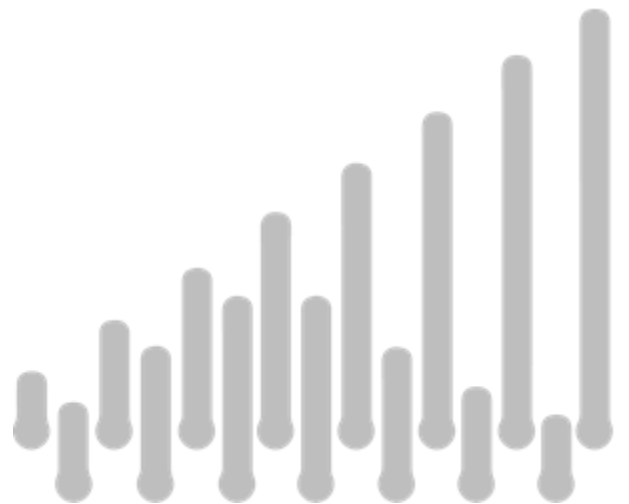
Main points

- February's growth underperformed expectations at 0.1 per cent, despite positive contributions from the hospitality, travel agency and recreation sectors, which continued to normalise after Covid-19. Our final forecast for the first quarter of 2022 is for growth of 1.0 per cent.
- The 3.8 per cent month-on-month decline in healthcare output reflects a reduction in Covid-related activity. Falls in retail and manufacturing, on the other hand, may reflect the rising cost of consumer and producer goods even before the war in Ukraine began.
- Our initial nowcast for the second quarter of 2022 is for GDP unchanged from the first quarter, with a small quarter-on-quarter fall in production and a small rise in construction.
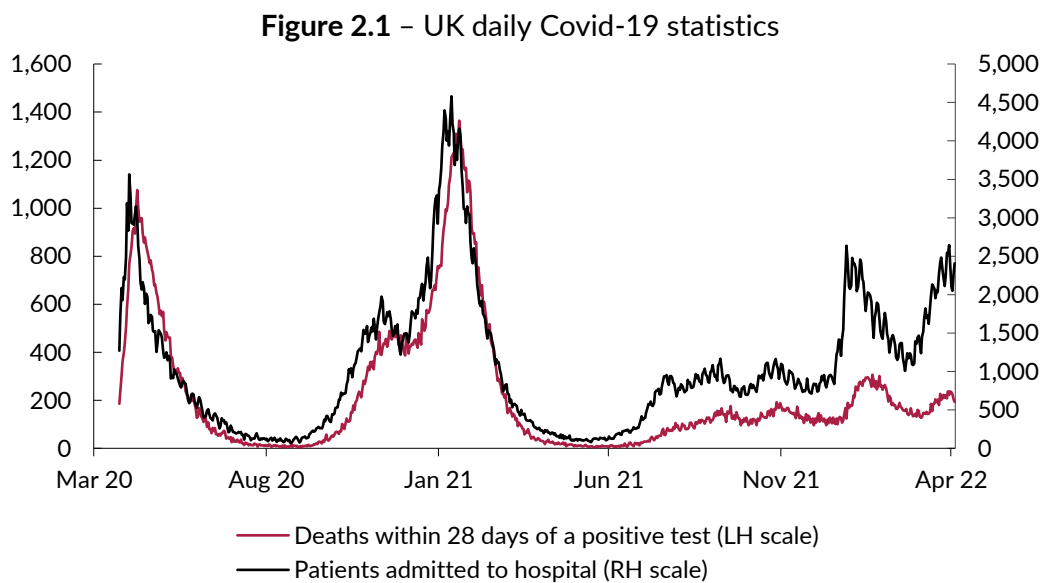
Figure 1 - UK GDP
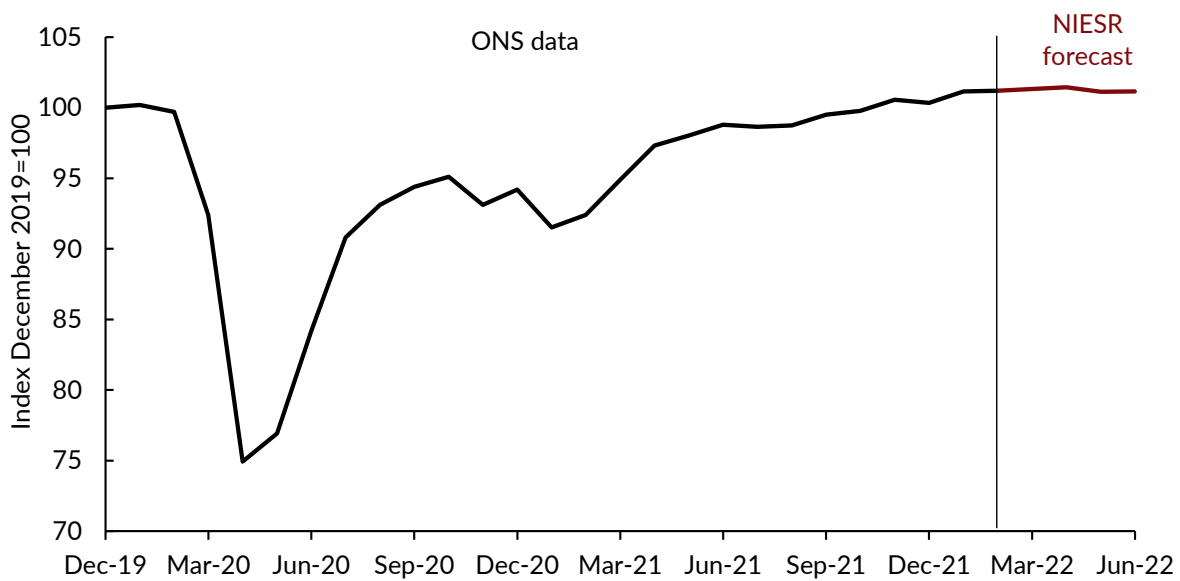
Economic setting

The UK faced above-target and rising inflation even before the war in Ukraine began, with consumer confidence indicators suggesting that households are concerned about their financial situations over the coming months.

NIESR research has suggested that inflation will now average 7 per cent in 2022, and GDP growth could be reduced by 0.8 percentage points to 4.0 per cent from the 4.8 per cent we forecast in our Winter 2022 UK Economic Outlook. This analysis will be updated in our Spring UK Economic Outlook, to be published on 10th May.

Covid-19 cases and hospitalisations have risen sharply again over the coming month, with the latest data suggesting that cases may have peaked, though hospitalisations and deaths could continue to rise for some time (Figure 2.1): anecdotal evidence suggests that labour supply may be somewhat constrained again, as it was in December and January.

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.

High frequency indicators suggest that vacancies remain close to record levels. Card spending returned to autumn levels and new dwelling completions recovered from a recent low (Figure 2.2).

Figure 2.2 – Spending and hiring indicators

Legend: Debit and credit cards — Online job adverts — EPC certificates for new dwellings (a)
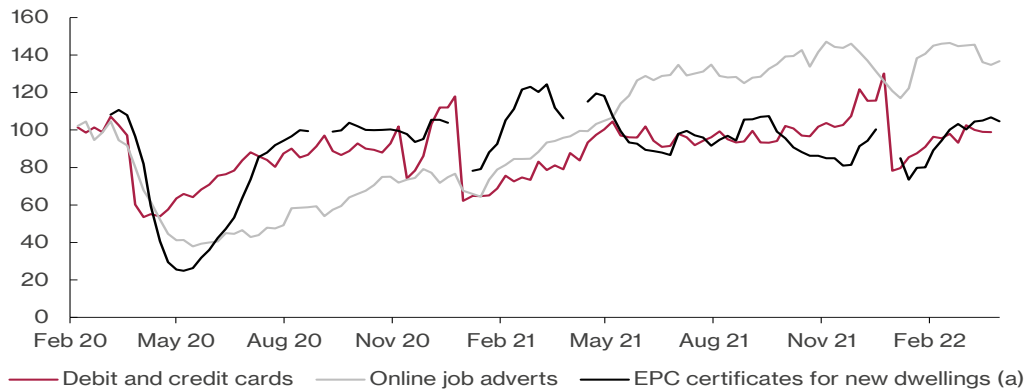
Notes: (a) England and Wales. Debit and credit cards (CHAPS-based): 100 = February 2020, percentage change on a backward looking seven-day rolling average, non-seasonally adjusted, nominal prices. Job adverts: change from the same week in 2019. EPC certificates: change from the same week in 2019/2020, four–week rolling average, adjusted for timing of holidays.

Source: ONS, BoE, Adzuna, MHCLG, NIESR.

News in latest ONS data

The monthly GDP data for February were weaker than we forecast in March, GDP growing by 0.1 per cent month-on-month instead of 0.5 per cent, and by 1.0 per cent on a rolling three-month basis (see Figure 3).

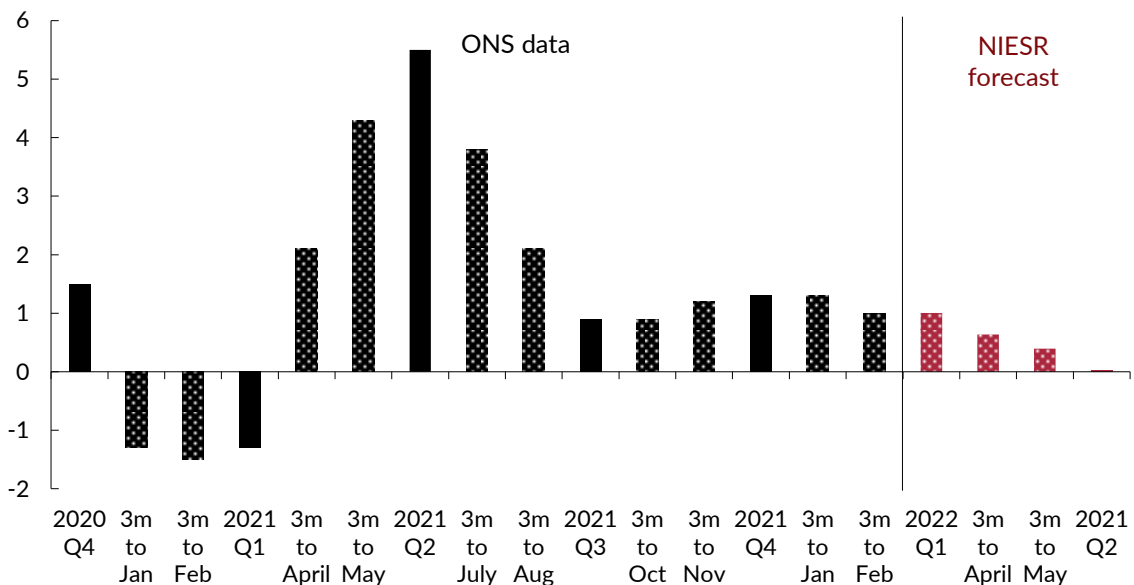**Figure 3 –** UK GDP growth (3 months on previous 3 months, per cent)

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)
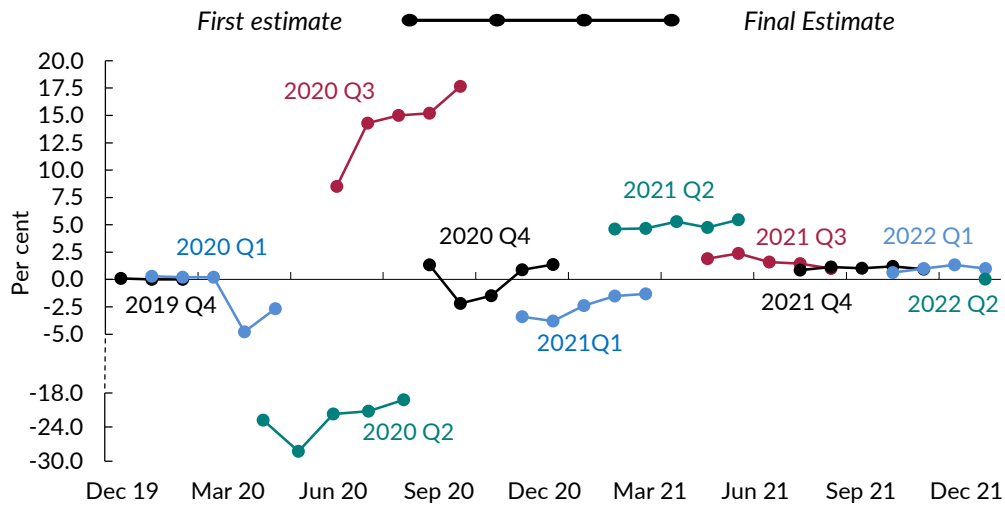

Figure 5 shows a heat map of the data surprises across sectors in the monthly data, relative to last month's GDP Tracker, highlighting the sectors where the surprises are large relative to the volatility of the output data. This month, there were negative surprises across the board, particularly in extraction and water supply.

Figure 5 – Surprises in monthly data

	02/21	03/21	04/21	05/21	06/21	07/21	08/21	09/21	10/21	11/21	12/21	01/22	02/22
Business services and finance	0.2	0.8	-0.5	-0.2	0.7	-1.0	-0.2	0.7	-0.2	0.3	0.2	0.1	0.0
Government	-0.2	0.7	0.7	0.0	-0.3	-0.3	-0.7	0.7	0.3	0.2	0.0	0.0	-0.3
Distribution , Hotels and Restaurants	0.4	-0.2	1.1	-0.7	-0.2	-0.6	0.2	-0.2	0.0	0.0	-0.3	0.2	-0.1
Transport, Storage and Communication	-0.2	0.1	0.3	-0.1	0.1	0.2	0.1	-0.3	0.4	0.4	0.3	0.7	0.0
Manufacturing	0.7	-0.1	-0.5	0.0	-0.4	-0.1	-0.3	-0.2	0.0	0.2	0.2	0.1	-0.3
Electricity	0.3	-0.3	1.0	1.9	-1.6	-0.9	-1.5	0.0	-0.9	-0.4	-0.1	0.1	0.0
Extraction	-0.9	0.6	-2.9	0.0	-2.4	3.0	1.7	-1.3	-0.9	-0.6	-0.7	0.1	-0.5
Water Supply, Sewerage, Waste Management	1.2	0.5	-0.8	-0.3	1.1	0.3	-0.4	-0.6	0.9	1.5	0.5	-0.4	-0.6
Construction	0.7	0.3	-0.2	-0.2	-0.2	-0.2	-0.2	0.3	-0.3	0.3	0.1	0.4	-0.1
Agriculture	1.3	0.4	-0.5	-0.2	0.3	0.6	0.7	0.3	0.0	-0.2	-0.2	0.0	0.0

←——— **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.

Table 1 shows the growth in each sector for the three months to February, compared with the previous three months, against the forecast for each in our March GDP Tracker.

Table 1 – 3-month-on-3-month growth to February

	GDP	Index of Services	Index of Production	Manufacturing	Mining and Quarrying	Index of Construction
Forecast	1.0	0.7	1.1	1.3	-5.5	3.7
Outturn	1.0	0.8	1.0	1.8	-6.6	2.3

Sectoral detail

We now forecast GDP to grow by 1.0 per cent in the first quarter of 2022, with all sectors contributing broadly in line with their GDP weights (Figure 6), and remaining constant in the second quarter.

Figure 6 - Contributions to quarterly GDP growth (percentage points)
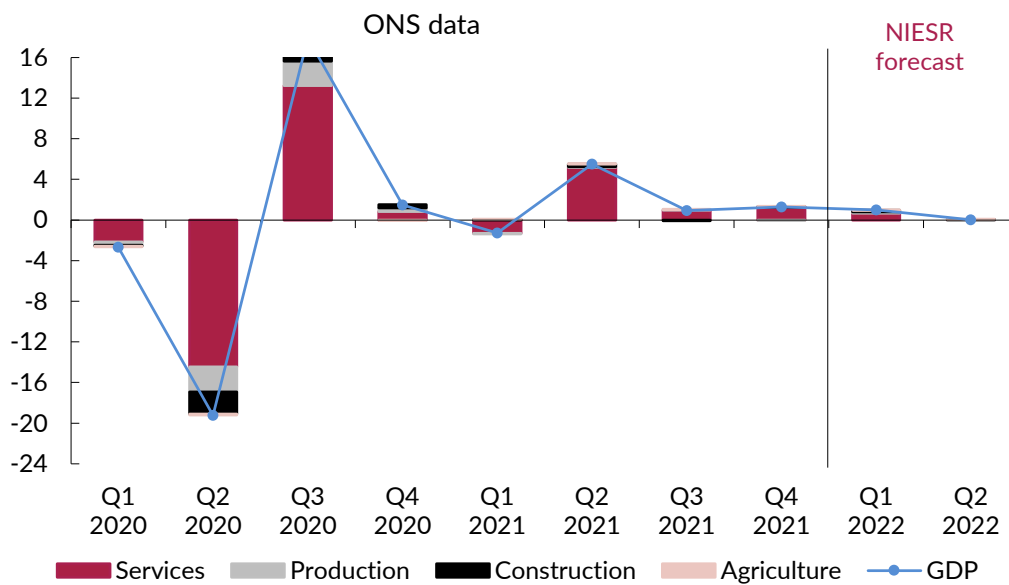
Services (80 per cent of GDP)

The survey balances point to little change in the growth rate of 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 registered 62.6 in March, up from 60.5 in February, though with expectations for the year ahead falling to their lowest level since October 2020. Internationally, the JPMorgan Global Services Business Activity Index fell slightly to 53.4 from 54.0 in February.

Based on recent developments we expect service sector activity to grow by 0.8 per cent in the first quarter of 2022 and by 0 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)

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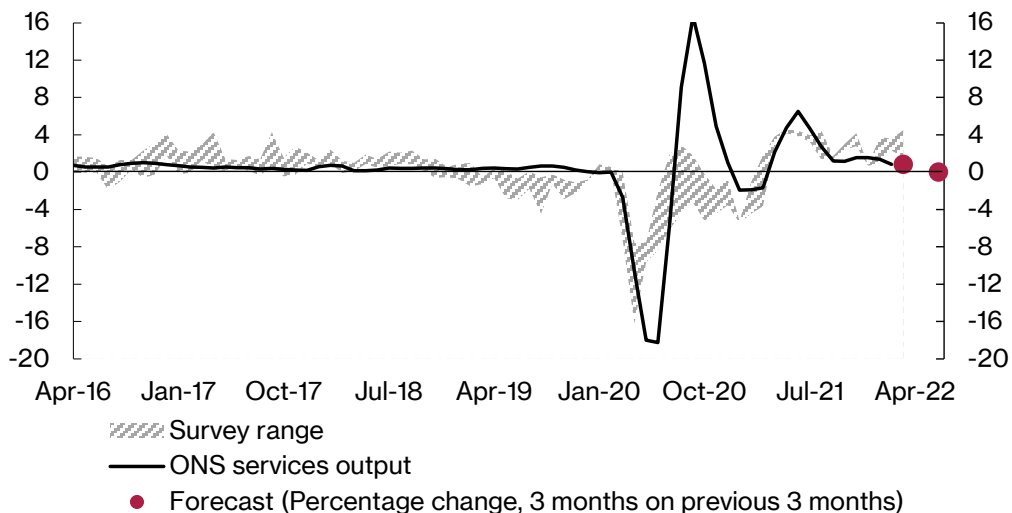
Note: The shaded swathe shows the highest and lowest values each month of a range of business survey balances that have been standardised so that they have the same mean and standard deviation as the quarterly growth of the ONS series.
Source: ONS, CBI, Markit, Bank of England Agents, EC, NIESR calculations.

Production (14 per cent of GDP)

We forecast that production sector output will grow by 0.9 per cent in the first quarter of 2022 and decline by 0.2 per cent in the second quarter, though output in this sector is volatile and difficult to predict with accuracy on a quarterly basis. 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, accounting for 10 per cent of GDP.

Manufacturing (10 per cent of GDP)

The IHS Markit/CIPS UK manufacturing PMI fell to 55.2 in March, its lowest reading in 13 months, from 58.0 in February. The JPMorgan Global Manufacturing Output PMI fell to an 18-month low at 53.0. Our forecast for the first quarter of 2022 is for manufacturing to grow by 1.4 per cent (Figure 8) followed by a decline of 0.3 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)
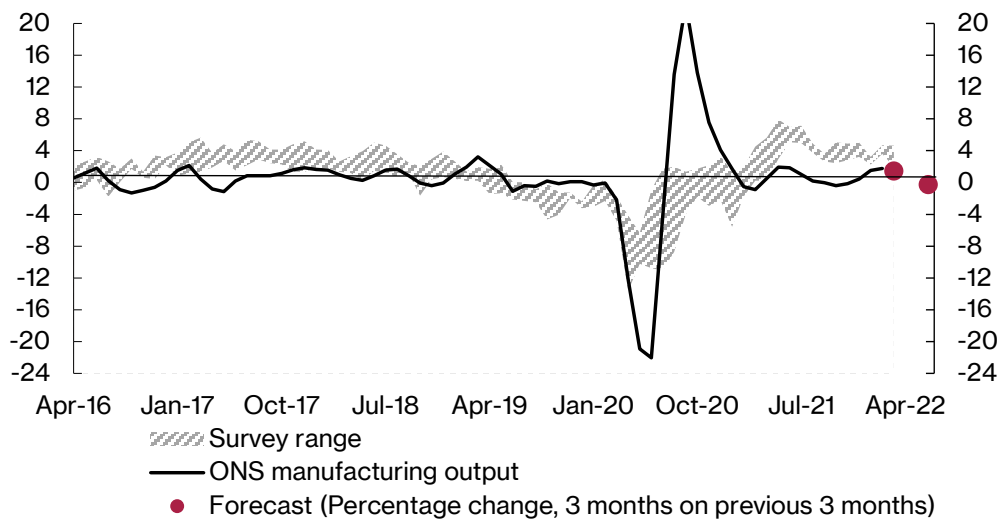
Note: The shaded swathe shows the highest and lowest values each month of a range of business survey balances that have been standardised so that they have the same mean and standard deviation as the quarterly growth of the ONS series.
Source: ONS, CBI, Markit, Bank of England Agents, EC, NIESR calculations.

Mining and quarrying (1 per cent of GDP)

Mining and quarrying (extraction) is a small but erratic component of industrial production that can have an influence on overall GDP growth. We forecast a decline of 3.1 per cent in the first quarter of 2022 and of 0.6 per cent in the second quarter.

Construction (6 per cent of GDP)

The IHS Markit/CIPS construction PMI survey registered 59.1 in March, unchanged from February. We expect construction output to grow by 2.7 per cent in the first quarter of 2022 and by 0.5 per cent in the second quarter.

Table 2 - Summary Table of GDP growth (2019=100)

2019=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-20	84.3	84.8	91.5	78.7	77.2	84.9	87.2	84.4	95.8	89.5	97.8	71.7	86.4
Jul-20	90.9	91.3	92.9	89.6	90.9	89.4	92.2	91.0	101.0	82.6	99.0	84.4	87.5
Aug-20	93.2	93.6	93.3	93.8	97.2	89.4	93.8	93.8	101.0	78.6	98.8	87.0	88.6
Sep-20	94.5	94.8	95.1	97.3	94.1	89.9	94.6	95.0	101.4	76.0	99.3	89.9	89.1
Oct-20	95.2	95.5	95.6	97.7	92.9	92.5	95.5	96.3	98.2	78.7	99.8	91.6	87.7
Nov-20	93.2	92.7	95.2	95.6	82.8	91.8	96.5	98.2	97.4	75.4	99.6	92.2	87.0
Dec-20	94.3	94.4	96.3	97.1	86.6	91.8	96.1	96.8	100.9	77.0	101.0	90.8	87.1
Jan-21	91.6	91.3	96.0	91.4	78.9	91.5	94.8	95.0	101.9	76.4	101.2	89.1	88.5
Feb-21	92.5	92.0	96.4	92.3	80.7	91.0	95.6	96.2	102.1	72.1	102.9	92.3	89.8
Mar-21	95.0	94.6	98.0	97.7	82.4	92.7	96.7	97.5	101.0	75.0	103.6	96.0	90.9
Apr-21	97.4	97.8	96.8	102.3	94.2	95.0	96.1	97.8	104.1	61.9	102.4	96.4	90.8
May-21	98.1	98.5	96.6	102.7	99.3	94.7	97.1	98.3	108.8	64.5	102.3	96.3	91.9
Jun-21	98.9	99.7	98.1	103.2	101.1	95.5	95.8	97.9	102.2	57.3	104.2	95.7	93.8
Jul-21	98.7	99.5	97.2	103.4	100.3	96.7	96.6	98.2	98.9	70.1	104.5	94.8	95.5
Aug-21	98.9	99.6	97.6	101.7	102.2	97.7	96.9	98.0	95.1	81.7	103.9	94.0	96.9
Sep-21	99.6	100.5	99.1	103.6	101.7	97.5	96.4	97.7	94.1	79.8	103.3	95.4	96.9
Oct-21	99.9	101.1	98.9	104.4	101.8	99.6	95.7	97.5	91.4	75.3	105.0	94.5	97.0
Nov-21	100.7	101.8	99.9	105.0	101.9	101.3	96.7	98.5	92.7	73.1	107.4	95.9	96.9
Dec-21	100.4	101.4	100.3	105.6	97.0	101.4	97.0	99.2	92.9	70.9	107.9	96.5	96.7
Jan-22	101.3	102.2	100.6	105.4	99.5	104.7	97.7	100.0	93.0	72.3	106.8	98.0	97.2
Feb-22	101.3	102.3	101.0	104.5	99.9	104.9	97.1	99.7	92.4	70.0	106.3	97.9	97.6
Mar-22	101.4	102.4	101.4	104.0	100.1	105.3	97.3	99.7	92.8	70.2	106.8	98.7	97.8
Apr-22	101.6	102.6	101.8	103.8	99.8	106.1	97.2	99.5	92.5	70.7	107.0	98.7	97.8
May-22	101.2	102.2	102.1	103.7	99.7	102.4	97.1	99.5	91.7	70.4	107.1	98.7	98.3
Jun-22	101.3	102.2	102.1	103.7	99.7	102.8	97.1	99.6	91.0	70.1	107.3	98.7	96.9

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-20	-19.2	-18.2	-9.9	-23.2	-34.3	-16.4	-17.6	-22.0	-8.0	-2.4	-5.8	-35.6	-15.1
Jul-20	-5.6	-5.6	-4.7	-7.9	-3.9	-6.9	-3.1	-4.4	-0.6	2.9	-0.6	-11.1	-7.7
Aug-20	9.8	9.1	1.1	12.1	36.5	4.3	11.2	13.6	7.0	5.6	4.2	18.7	-0.7
Sep-20	17.9	16.7	4.7	25.3	50.7	10.0	17.1	22.5	10.4	-3.6	5.5	41.6	4.0
Oct-20	12.2	11.7	4.1	19.7	25.5	7.1	10.1	13.8	5.0	-7.2	3.1	24.7	2.6
Nov-20	5.4	4.9	3.0	10.9	1.7	4.0	4.9	7.5	-0.3	-8.2	1.0	12.6	0.5
Dec-20	1.5	1.0	2.1	3.5	-7.1	2.8	2.7	4.1	-2.3	-2.6	1.1	5.1	-1.3
Jan-21	-1.3	-1.9	1.2	-1.6	-12.6	1.2	1.2	1.7	-0.1	-1.9	1.3	1.3	-1.1
Feb-21	-1.6	-1.9	1.0	-3.4	-8.7	0.0	0.0	-0.5	2.7	-2.0	2.1	-0.5	0.6
Mar-21	-1.3	-1.7	1.1	-3.1	-7.7	-0.3	-0.3	-0.9	2.9	-3.3	2.4	1.0	2.8
Apr-21	2.1	2.2	1.3	2.9	3.6	1.3	0.3	0.5	2.3	-8.7	2.4	4.6	3.4
May-21	4.4	4.8	0.9	7.8	12.1	3.0	1.2	1.9	3.0	-10.7	1.0	6.1	3.1
Jun-21	5.5	6.5	0.4	9.5	21.7	3.6	0.7	1.8	3.3	-17.8	0.4	4.0	2.7
Jul-21	3.8	4.7	0.2	5.8	16.9	2.9	0.4	1.0	0.9	-8.2	0.7	0.7	3.6
Aug-21	2.1	2.7	0.5	1.9	10.0	2.7	-0.2	0.2	-5.6	3.8	1.4	-1.5	4.6
Sep-21	0.9	1.2	0.8	0.2	3.3	2.3	0.3	0.0	-8.6	26.1	0.9	-1.5	4.6
Oct-21	0.9	1.2	1.3	0.1	1.7	2.8	-0.2	-0.4	-9.5	23.4	0.4	-1.0	3.4
Nov-21	1.2	1.5	1.7	1.5	0.6	2.9	-0.2	-0.1	-6.1	9.1	1.0	0.5	1.6
Dec-21	1.3	1.6	1.8	2.0	-1.2	3.6	-0.2	0.4	-3.9	-5.3	2.8	1.0	0.4
Jan-22	1.3	1.4	1.8	2.0	-2.4	4.3	0.8	1.5	-0.7	-8.7	3.2	2.3	0.0
Feb-22	1.0	0.8	1.3	0.8	-2.9	4.2	1.0	1.8	0.0	-6.6	1.7	2.3	0.2
Mar-22	1.0	0.8	1.3	-0.4	-0.4	4.2	0.9	1.4	0.4	-3.1	-0.1	2.7	0.7
Apr-22	0.6	0.6	1.1	-1.2	0.5	2.9	0.1	0.4	-0.3	-2.5	-0.6	1.7	0.8
May-22	0.4	0.4	1.1	-1.3	1.1	0.9	0.0	-0.1	-0.5	-0.9	0.0	1.2	0.8
Jun-22	0.0	0.0	1.0	-0.9	-0.1	-1.1	-0.2	-0.3	-1.1	-0.6	0.5	0.5	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-20	-15.8	-15.2	-8.2	-21.4	-23.0	-15.5	-12.4	-15.5	-6.3	-0.7	-3.6	-29.8	-11.1
Jul-20	-9.4	-9.0	-7.4	-10.4	-9.4	-11.5	-7.7	-9.3	0.5	-11.9	-1.5	-15.9	-14.0
Aug-20	-7.0	-6.8	-7.3	-6.7	-2.7	-10.6	-5.3	-5.6	2.6	-15.8	-1.8	-12.2	-16.5
Sep-20	-5.8	-5.7	-5.3	-3.3	-6.2	-10.8	-5.0	-4.7	0.4	-20.8	-0.5	-8.5	-18.9
Oct-20	-5.2	-5.2	-5.2	-3.0	-6.9	-8.2	-4.6	-4.4	-6.3	-11.8	0.6	-5.4	-20.9
Nov-20	-6.8	-7.5	-4.6	-5.7	-16.9	-7.8	-2.8	-1.3	-8.1	-14.2	0.4	-5.7	-20.5
Dec-20	-5.8	-6.1	-4.0	-4.5	-13.3	-7.9	-2.8	-2.7	-2.9	-9.2	1.9	-7.0	-16.5
Jan-21	-8.7	-9.3	-4.5	-10.7	-21.6	-7.8	-4.0	-4.8	1.6	-10.4	0.9	-8.6	-14.8
Feb-21	-7.3	-8.2	-3.7	-8.7	-19.1	-8.4	-3.4	-4.0	3.0	-16.0	3.8	-4.7	-11.0
Mar-21	2.7	2.5	0.4	10.4	-2.3	-1.0	3.8	5.0	1.8	-7.4	3.9	4.3	-4.9
Apr-21	29.9	27.3	9.1	41.3	82.6	19.2	30.0	41.7	16.2	-19.9	11.5	80.2	8.2
May-21	27.4	26.1	9.2	40.7	70.0	19.0	23.7	30.9	21.7	-18.6	11.1	62.4	8.4
Jun-21	17.3	17.6	7.2	31.1	31.0	12.5	9.9	16.0	6.7	-36.0	6.5	33.5	8.6
Jul-21	8.6	9.0	4.6	15.4	10.3	8.2	4.8	7.9	-2.1	-15.1	5.6	12.3	9.1
Aug-21	6.1	6.4	4.6	8.4	5.1	9.3	3.3	4.5	-5.8	3.9	5.2	8.0	9.4
Sep-21	5.4	6.0	4.2	6.5	8.1	8.5	1.9	2.8	-7.2	5.0	4.0	6.1	8.8
Oct-21	4.9	5.9	3.5	6.9	9.6	7.7	0.2	1.2	-6.9	-4.3	5.2	3.2	10.6
Nov-21	8.0	9.8	4.9	9.8	23.1	10.3	0.2	0.3	-4.8	-3.1	7.8	4.0	11.4
Dec-21	6.5	7.4	4.2	8.8	12.0	10.5	0.9	2.5	-7.9	-7.9	6.8	6.3	11.0
Jan-22	10.6	11.9	4.8	15.3	26.1	14.4	3.1	5.3	-8.7	-5.4	5.5	10.0	9.8
Feb-22	9.5	11.2	4.8	13.2	23.8	15.3	1.6	3.6	-9.5	-2.9	3.3	6.1	8.7
Mar-22	6.8	8.2	3.5	6.4	21.5	13.5	0.7	2.3	-8.2	-6.4	3.1	2.8	7.6
Apr-22	4.3	4.9	5.1	1.5	5.9	11.7	1.2	1.7	-11.1	14.2	4.5	2.3	7.7
May-22	3.2	3.7	5.7	0.9	0.4	8.2	0.0	1.2	-15.7	9.1	4.7	2.5	6.9
Jun-22	2.4	2.5	4.1	0.4	-1.4	7.7	1.4	1.7	-11.0	22.4	3.0	3.1	3.3

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-20	9.5	8.6	3.4	7.8	32.2	6.7	11.1	12.4	7.2	13.0	6.2	20.9	1.9
Jul-20	7.8	7.7	1.5	13.9	17.7	5.3	5.7	7.8	5.4	-7.7	1.2	17.7	1.3
Aug-20	2.5	2.5	0.4	4.7	6.9	0.0	1.7	3.1	0.0	-4.8	-0.2	3.1	1.3
Sep-20	1.4	1.3	1.9	3.7	-3.2	0.6	0.9	1.3	0.4	-3.3	0.5	3.3	0.6
Oct-20	0.7	0.7	0.5	0.4	-1.3	2.9	1.0	1.4	-3.2	3.6	0.5	1.9	-1.6
Nov-20	-2.1	-2.9	-0.4	-2.1	-10.9	-0.8	1.0	2.0	-0.8	-4.2	-0.2	0.7	-0.8
Dec-20	1.2	1.8	1.2	1.6	4.6	0.0	-0.4	-1.4	3.6	2.1	1.4	-1.5	0.1
Jan-21	-2.9	-3.3	-0.3	-5.9	-8.9	-0.3	-1.4	-1.9	1.0	-0.8	0.2	-1.9	1.6
Feb-21	1.0	0.8	0.4	1.0	2.3	-0.5	0.8	1.3	0.2	-5.6	1.7	3.6	1.5
Mar-21	2.7	2.8	1.7	5.9	2.1	1.9	1.2	1.4	-1.1	4.0	0.7	4.0	1.2
Apr-21	2.6	3.4	-1.2	4.7	14.3	2.5	-0.6	0.3	3.1	-17.5	-1.2	0.4	-0.1
May-21	0.7	0.7	-0.2	0.4	5.4	-0.3	1.0	0.5	4.5	4.2	-0.1	-0.1	1.2
Jun-21	0.8	1.2	1.6	0.5	1.8	0.8	-1.3	-0.4	-6.1	-11.2	1.9	-0.6	2.1
Jul-21	-0.2	-0.2	-0.9	0.2	-0.8	1.3	0.8	0.3	-3.2	22.3	0.3	-0.9	1.8
Aug-21	0.1	0.1	0.4	-1.6	1.9	1.0	0.3	-0.2	-3.8	16.5	-0.6	-0.8	1.5
Sep-21	0.8	0.9	1.5	1.9	-0.5	-0.2	-0.5	-0.3	-1.1	-2.3	-0.6	1.5	0.0
Oct-21	0.3	0.6	-0.2	0.8	0.1	2.2	-0.7	-0.2	-2.9	-5.6	1.6	-0.9	0.1
Nov-21	0.8	0.7	1.0	0.6	0.1	1.7	1.0	1.0	1.4	-2.9	2.3	1.5	-0.1
Dec-21	-0.2	-0.4	0.4	0.6	-4.8	0.1	0.3	0.7	0.2	-3.0	0.5	0.6	-0.2
Jan-22	0.8	0.8	0.3	-0.2	2.6	3.3	0.7	0.8	0.1	2.0	-1.0	1.6	0.5
Feb-22	0.1	0.1	0.4	-0.9	0.4	0.2	-0.6	-0.3	-0.6	-3.2	-0.5	-0.1	0.4
Mar-22	0.1	0.1	0.4	-0.5	0.2	0.3	0.2	0.0	0.4	0.3	0.5	0.8	0.2
Apr-22	0.1	0.2	0.4	-0.1	-0.3	0.9	-0.1	-0.2	-0.3	0.7	0.2	0.0	0.0
May-22	-0.3	-0.4	0.4	-0.2	-0.1	-3.5	-0.1	0.0	-0.9	-0.5	0.1	0.0	0.5
Jun-22	0.0	0.0	0.0	0.0	-0.1	0.4	0.0	0.1	-0.8	-0.3	0.2	0.0	-1.4

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 3, 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 3 - **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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