

NIESR

Monthly GDP Tracker

Expected Q1 Contraction Now Likely to be Shallow

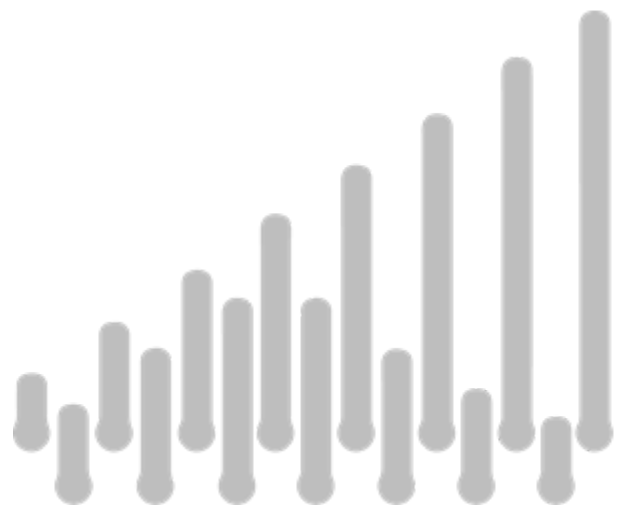
Paula Bejarano Carbo and Joanna Nowinska

10th March 2023

“GDP grew by 0.3 per cent in January relative to December, driven by growth in services; in particular, education services grew by 2.5 per cent in January as school attendance levels picked up following a December drop. While this appears to be good news for the UK economy, the broader picture is more ambiguous: GDP was flat in the three months to January relative to the previous three months and also flat compared to January 2022. Despite this, the outlook for the first quarter of 2023 continues to improve as higher-frequency data, including the services and construction February PMIs, indicate that activity will continue to pick-up in February, suggesting that any contraction we might see over Q1 is likely to be shallow.”

Paula Bejarano Carbo

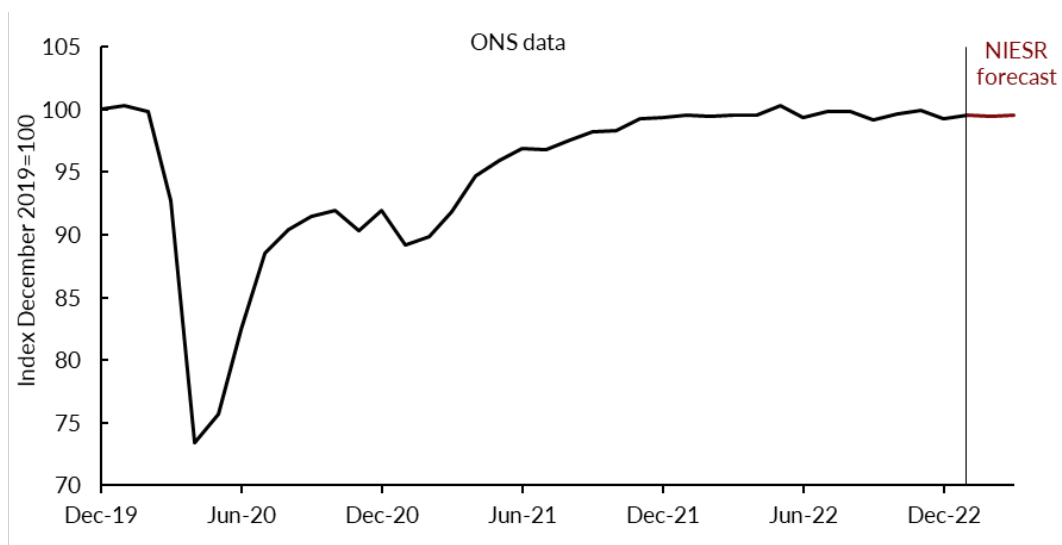
Associate Economist, NIESR



Main points

- Monthly GDP grew by 0.3 per cent in January 2023, following a 0.5 per cent fall in December 2022. This growth in the first monthly figure of the new year was driven by the services sector, which saw a pick-up in education, transport and storage, and healthcare and social work activities in January relative to December.
- GDP remained flat in the three months to January relative to the previous three months, and also flat compared to January 2022 (indicating no growth between these periods). As shown in figure 1 below, the UK economy has largely flatlined following the initial stages of post-pandemic recovery; today’s monthly GDP remains 0.2 per cent below its pre-pandemic (February 2020) level.
- We forecast GDP growth of -0.1 per cent in the first quarter of 2023. Not only are we forecasting a shallower contraction than in our last Q1 forecast, but we now also believe upward risks to the forecast have materialised, given optimistic higher-frequency data. For instance, the S&P Global/CIPS UK PMIs for the services and construction sectors report strong growth in business activity in February, as denoted by survey balances of 53.5 and 54.6, respectively. On the demand side, credit and debit card, job vacancy, and housing data point to increasing economic activity over the course of the first quarter of 2023.
- A key takeaway from the S&P Global/CIPS UK Services PMI is that businesses are still reporting price rises that are higher than input costs (e.g. energy bills and wages) despite falling energy prices and reduced shipping rates – the latest sign that persistent inflation may be embedding itself in the UK economy.

Figure 1 - UK GDP



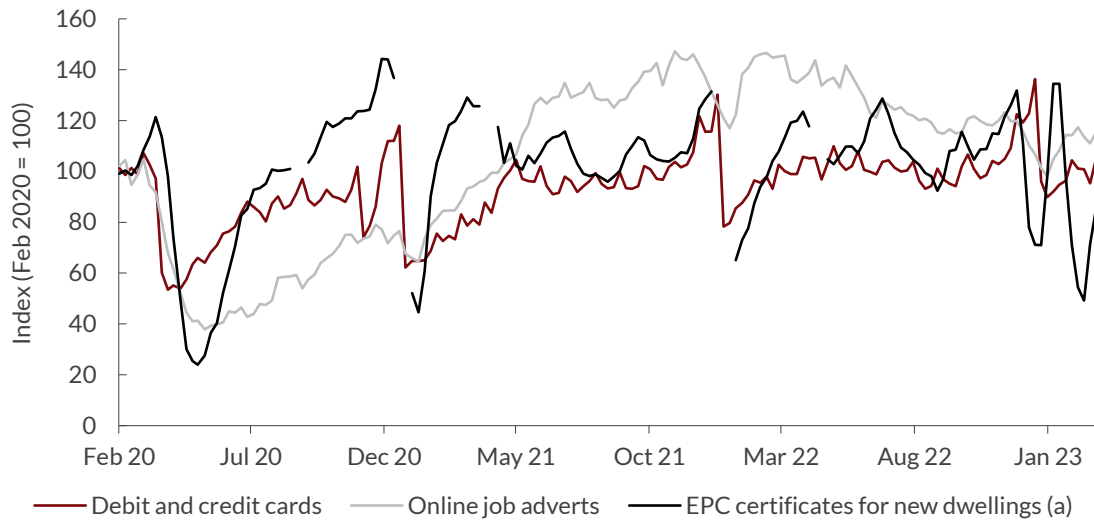
Economic setting

In our [previous GDP tracker](#), published 10 February, we noted that negative surprises in the services sector driven by strikes, decreased vaccination activity and the Premier League break caused a monthly fall in GDP of 0.5 per cent in December relative to November. Despite this month-on-month fall, quarterly data suggested that GDP remained flat in the fourth quarter of 2022 relative to the third quarter. Given these estimates, the United Kingdom narrowly avoided falling into a recession in 2022 (typically thought of as two consecutive quarters of contracting growth). To explain: though the UK experienced a contraction in GDP growth during the third quarter of 2022, since the fourth quarter saw no growth, rather than negative growth, it can be said that a recession was avoided. Clearly, that diagnosis hinges on a technicality. Indeed, in our last tracker, we stressed that a focus on the economic crisis faced by most of the British population offers a more insightful metric for understanding the economic outlook given that it feels like a recession for many, regardless of the GDP data outturn.

Today's ONS data indicate that monthly GDP grew by 0.3 per cent in January 2023, following a 0.5 per cent fall in December 2022. This growth in the first monthly figure of the new year was driven by the services sector, which saw a pick-up in education, transport and storage, and healthcare and social work activities in January relative to December. While this appears to be good news for the UK economy, the broader picture is more ambiguous: GDP remained flat in the three months to January relative to the previous three months, and also flat compared to January 2022 (indicating no growth between these periods). As shown in figure 1 above, the UK economy has largely flatlined following the initial stages of post-pandemic recovery; today's monthly GDP remains 0.2 per cent below its pre-pandemic (February 2020) level. Given today's data, we forecast GDP growth of -0.1 per cent in the first quarter of 2023, representing a shallower contraction than in our last Q1 forecast (of -0.2 per cent growth).

To further contextualise our forecast for the first quarter of 2023, figure 2 compares spending and hiring indicators to pre-pandemic levels, while figure 3 records recent trends in PMIs. High frequency indicators show that debit and credit card spending has recovered somewhat throughout the first quarter of the year after having plummeted (as expected) to pre-pandemic levels following the Christmas peak. Labour market and construction indicators also show activity picking up over the course of the first quarter of 2023. Figure 3 illustrates a possible turning point in the decline of the key sectors of the UK economy: services and construction recorded increased output levels in February relative to January, alongside a further softening in the manufacturing sector's contraction. Taken together, these two figures suggest that upward risks to our GDP forecast for the first quarter of 2023 could emerge from both demand and supply sides.

Figure 2 – Spending and hiring indicators (weekly indices)



Notes: (a) England and Wales. Debit and credit cards (CHAPSbased): Index February 2020 = 100, a backward looking seven-day rolling average, non-seasonally adjusted, nominal prices. Job adverts: Index February 2020 = 100, weekly average. EPC certificates: Index February 2020 = 100, four-week rolling average, adjusted for timing of holidays.

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

Figure 3 – Recent trends in PMIs



Sources: Refinitiv Datastream, S&P

News in latest ONS data

The monthly GDP data for January were better than our February estimate, growing by 0.3 per cent rather than 0.1 per cent. GDP remained flat in the three months to January, compared to our previous forecast of a 0.1 per cent contraction.

Figure 4 – UK GDP growth (3 months on previous 3 months, per cent)

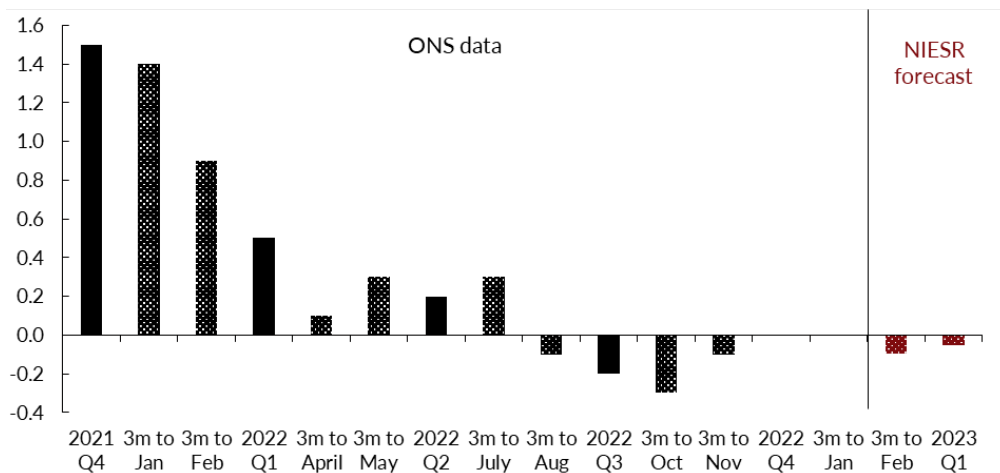
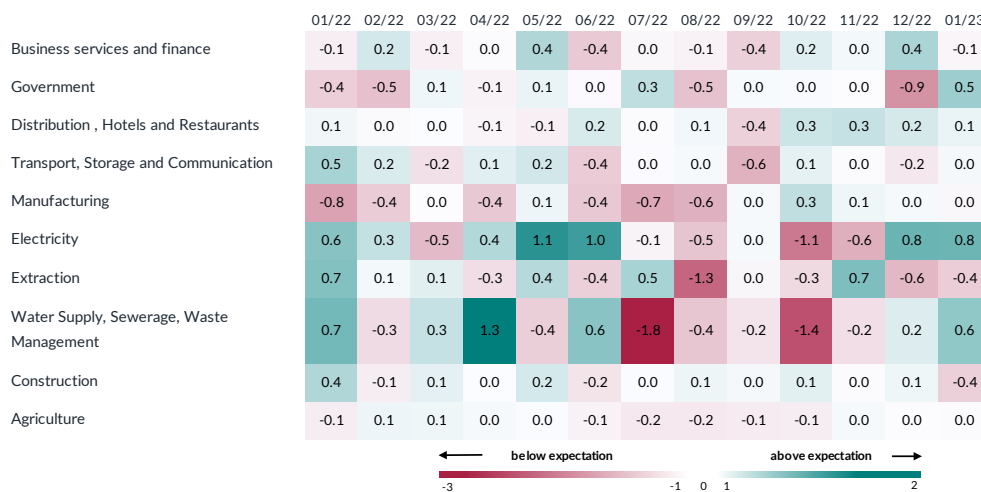


Figure 5 shows a heat map of the data surprises across sectors in the monthly data, relative to last month’s GDP Tracker, highlighting the sectors where the surprises are large relative to the volatility of the output data. This month, there was a large positive surprise in electricity as wholesale energy prices fell unexpectedly.

Figure 5 – Surprises in monthly data



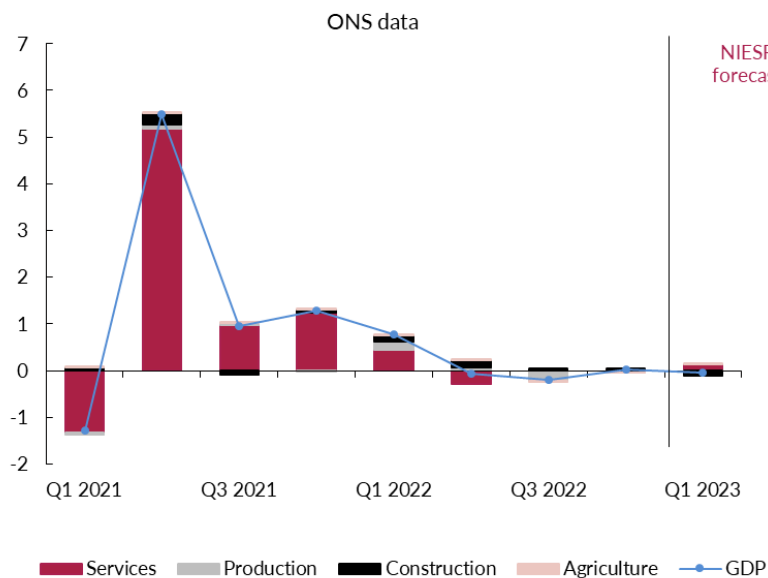
Note: Cells show forecast errors as a fraction of the standard deviation of errors for each series. Green cells are greater than expected, red cells are less than expected.

For more information on our forecast estimates relative to ONS data, please see the ‘Health Warning’ section below.

Sectoral detail

Our forecast for GDP growth in the first quarter in 2023 is for a contraction of 0.1 per cent.

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



Services (80 per cent of GDP)

The survey balances point to a welcome rise in business activity in the services sector following five months of contracting activity, as shown by the survey indicators in figures 3 and 7. The S&P Global/CIPS UK Services PMI registered a welcome rise in headline business activity, reporting a balance of 53.5 in February from 48.7 in January – the strongest balance since June 2022. Surveyed businesses noted increased investment and orders due to the improved economic outlook (in part due to lower energy costs). Despite these falling energy prices, respondents are still reporting price rises that are higher than input costs (e.g. energy bills and wages) – the latest sign that persistent inflation may be embedding itself in the UK economy.

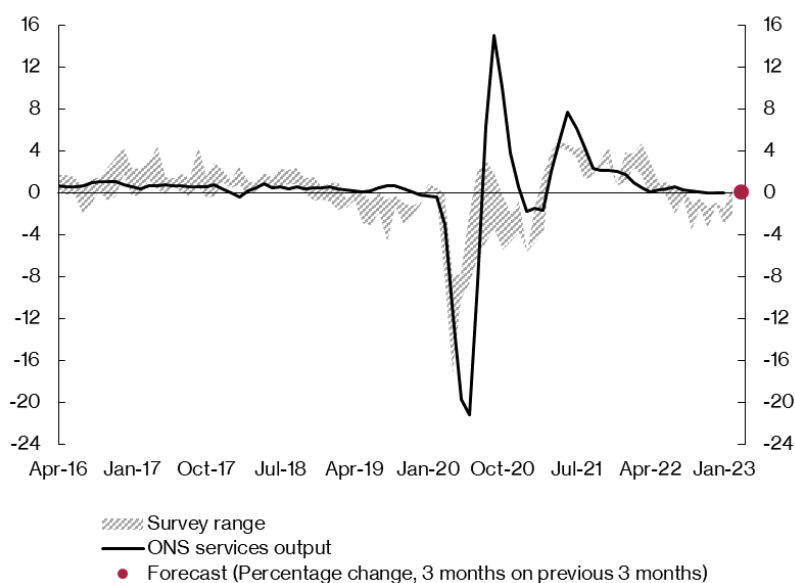
Based on recent developments we expect UK service sector activity to grow by 0.2 per cent in the first quarter of 2023 relative to the previous quarter.

Construction (6 per cent of GDP)

The S&P Global/CIPS UK Construction PMI survey registered a strong increase from 48.4 in January to 54.6 in February, driven by a boom in commercial construction. Business optimism in this sector rose to a one-year high, despite elevated interest rates and recession risks: this can be explained by companies expecting confidence to stabilise once customers adjust to a permanently higher level of borrowing costs than those seen in the post-Financial Crisis era.

Our forecast for the first quarter of 2023 sees a contraction of 1.8 per cent in this sector.

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.

Production (14 per cent of GDP)

We forecast that production sector output will remain flat in the first quarter of 2023, 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 are manufacturing, accounting for 10 per cent of GDP, and mining and quarrying, accounting for 1 per cent of GDP.

Manufacturing

The S&P Global/CIPS UK manufacturing PMI for January posted 49.3 in February, up from 47.0 in January. While this is a welcome improvement, this marks the seventh consecutive month this sector has contracted (as noted by recording figures below the neutral 50), driven by a continuing combination of weakened domestic and export demand, eroding consumer confidence and Brexit-related trade difficulties. Despite this, survey respondents recorded the highest level of business optimism in a year.

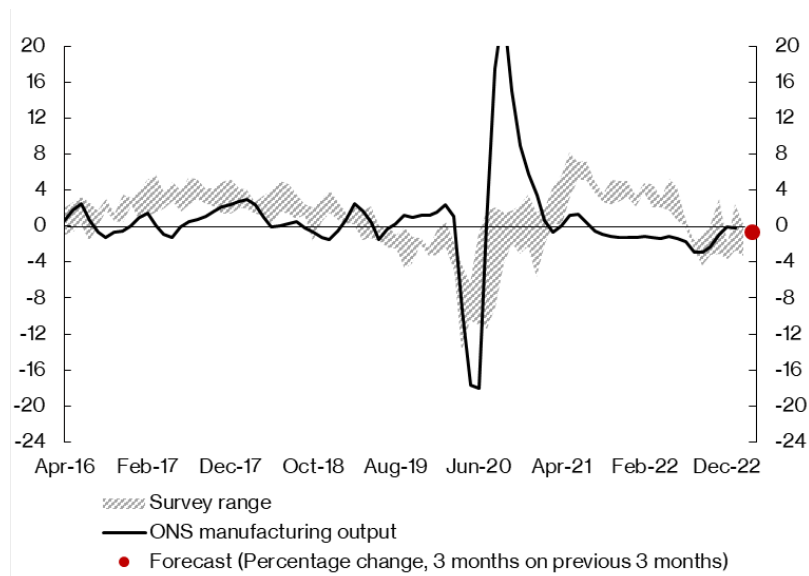
Our forecast for the first quarter of 2023 sees a contraction of 0.6 per cent in this sector.

The S&P Global/CIPS UK Composite PMI – which combines comparable services and manufacturing indices – saw a significant rise to 53.1 in February from 48.5 in January, indicating an increase in overall private sector output.

Mining and quarrying

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 contraction of 2.8 per cent in this sector in the first quarter of 2023.

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.

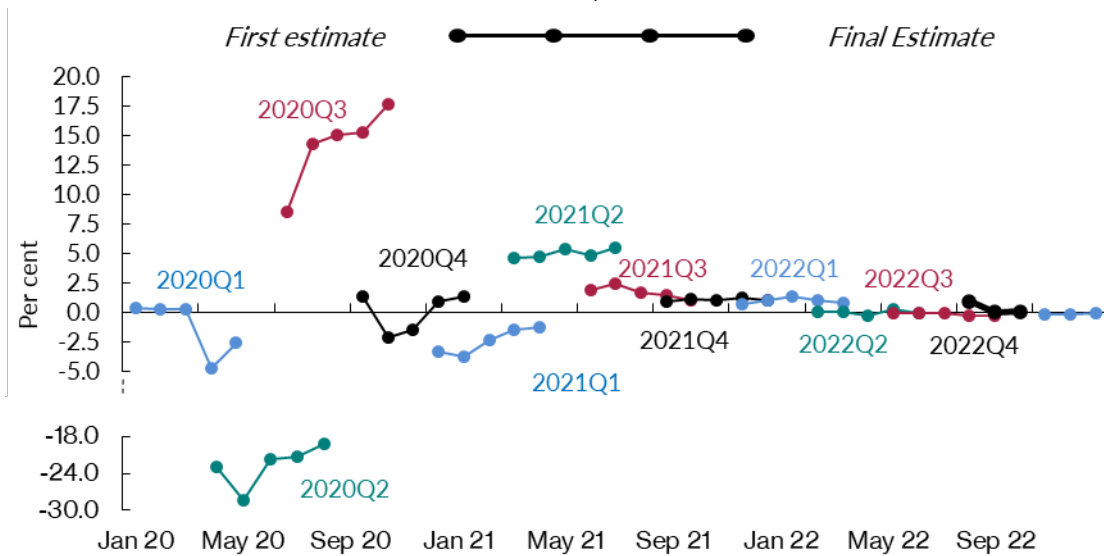
Table 1 - Summary Table of GDP growth (2019=100)

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	338	220	134	103	135	102	15	6	13	62	7
Jan-22	100.0	98.6	103.7	95.8	87.7	101.5	107.4	107.6	112.1	89.4	116.3	100.1	104.7
Feb-22	99.9	98.5	104.0	94.6	88.4	102.5	107.0	107.0	112.2	89.2	116.2	99.9	105.4
Mar-22	100.0	98.5	104.2	95.2	87.5	102.2	106.9	107.0	110.4	89.8	116.4	101.7	105.7
Apr-22	100.0	98.6	104.4	93.8	88.5	102.5	106.3	106.2	111.8	87.3	117.8	101.6	105.9
May-22	100.7	99.4	105.5	95.2	88.3	103.4	106.3	106.4	112.1	88.1	114.7	103.3	106.1
Jun-22	99.8	98.7	104.6	94.4	88.5	102.6	104.9	104.6	111.4	85.9	116.2	101.2	106.1
Jul-22	100.2	99.2	105.0	94.9	88.7	103.7	104.2	103.6	110.7	90.6	113.1	102.3	106.3
Aug-22	100.2	99.5	105.1	95.0	88.0	105.1	102.6	102.3	110.0	83.0	113.6	102.6	106.1
Sep-22	99.6	98.7	104.7	95.0	86.7	102.6	102.5	102.1	109.6	84.3	114.1	102.3	105.5
Oct-22	100.1	99.3	105.1	95.6	87.9	102.7	102.7	103.0	106.4	84.0	112.6	103.0	105.5
Nov-22	100.3	99.5	105.3	95.5	87.9	103.2	102.8	102.4	107.1	86.9	114.9	102.5	105.4
Dec-22	99.7	98.7	105.7	93.3	88.0	102.5	103.1	102.4	112.7	82.9	115.7	102.5	105.3
Jan-23	100.0	99.3	105.9	94.7	88.1	103.2	102.8	102.0	113.2	81.1	116.4	100.8	105.3
Feb-23	99.9	99.4	106.2	94.5	87.7	103.5	102.7	101.8	112.0	82.8	116.4	100.9	105.4
Mar-23	100.0	99.4	106.5	94.1	87.7	103.7	103.0	102.1	112.5	82.8	116.5	100.9	105.5
Percentage change, 3 months on previous 3 months													
Jan-22	1.4	1.8	1.6	3.5	-3.0	4.2	-0.8	-1.2	2.9	-6.4	2.2	2.8	-0.2
Feb-22	0.9	1.0	0.8	1.4	-2.5	4.3	-0.3	-1.2	4.3	-2.7	2.0	2.8	0.2
Mar-22	0.6	0.5	0.5	-0.8	-0.2	3.8	-0.3	-1.3	4.1	1.9	0.9	3.0	0.6
Apr-22	0.1	0.1	0.3	-2.0	0.8	2.7	-0.7	-1.4	1.1	1.4	1.0	2.1	1.0
May-22	0.3	0.3	0.7	-1.3	0.9	1.6	-0.7	-1.1	0.1	0.4	0.2	2.6	1.0
Jun-22	0.2	0.4	0.8	-0.8	0.6	0.8	-1.2	-1.4	0.2	-2.6	-0.1	1.5	0.7
Jul-22	0.3	0.6	0.8	0.3	0.4	0.8	-1.5	-1.7	-0.1	-0.6	-1.8	1.2	0.5
Aug-22	-0.2	0.3	0.2	0.0	0.3	1.1	-2.4	-2.8	-0.7	-2.1	-1.7	-0.2	0.3
Sep-22	-0.2	0.2	0.1	0.5	-0.7	0.9	-2.6	-2.9	-1.5	-1.3	-2.3	0.4	-0.1
Oct-22	-0.3	0.1	-0.1	0.4	-1.1	0.2	-2.4	-2.3	-2.5	-5.0	-1.1	0.4	-0.4
Nov-22	-0.1	0.0	0.1	0.6	-1.0	-0.9	-1.2	-1.0	-2.7	-1.7	-0.4	0.6	-0.7
Dec-22	0.0	0.0	0.4	-0.2	0.2	-1.0	-0.2	-0.1	-1.2	-1.6	0.7	0.3	-0.5
Jan-23	0.0	0.0	0.6	-0.7	0.5	-0.5	0.3	-0.2	2.1	-0.2	2.0	-0.7	-0.3
Feb-23	-0.1	0.0	0.9	-1.3	0.5	0.2	0.2	-0.4	4.6	-3.3	2.0	-1.2	-0.1
Mar-23	-0.1	0.2	0.8	-0.4	-0.1	0.6	0.0	-0.6	3.5	-2.8	1.8	-1.8	0.0
Percentage change, month on same month in previous year													
Jan-22	11.6	14.5	5.1	26.1	29.2	12.9	-1.0	-0.8	-4.5	-4.9	5.4	10.0	7.5
Feb-22	10.8	13.9	4.6	25.0	25.9	15.2	-1.7	-2.2	-5.5	2.3	4.0	5.8	7.1
Mar-22	8.5	11.0	3.1	19.3	21.0	13.4	-2.6	-3.3	-5.2	1.2	3.7	4.4	6.1
Apr-22	5.2	6.7	3.9	8.8	8.3	10.0	-2.3	-4.2	-6.8	18.6	6.0	2.9	6.8
May-22	4.6	6.1	4.9	7.2	2.3	11.8	-3.7	-4.5	-12.3	14.7	3.2	5.6	5.5
Jun-22	2.6	3.6	3.1	4.1	-0.2	9.7	-3.4	-5.5	-7.5	24.9	2.2	4.3	3.7
Jul-22	3.1	4.3	3.9	5.0	0.3	9.5	-4.2	-6.0	-3.5	10.6	-1.1	6.1	2.5
Aug-22	2.2	3.5	3.6	3.4	-2.5	10.3	-6.2	-7.1	-0.3	-14.5	0.4	6.9	1.1
Sep-22	1.0	1.9	1.8	1.6	-4.1	8.3	-5.4	-6.8	1.2	-10.0	2.5	6.0	0.8
Oct-22	1.4	2.1	2.4	1.4	-1.9	5.7	-4.2	-5.3	3.4	-6.7	-2.1	7.1	0.7
Nov-22	0.6	1.1	1.4	-0.7	-0.9	4.7	-4.4	-5.6	-1.7	-0.9	-0.1	4.6	0.8
Dec-22	-0.1	0.3	1.5	-4.3	2.6	3.4	-4.1	-5.6	2.7	-3.2	0.0	3.7	0.7
Jan-23	0.0	0.7	2.1	-1.1	0.5	1.7	-4.3	-5.2	1.0	-9.3	0.1	0.7	0.6
Feb-23	0.0	0.9	2.1	-0.2	-0.8	1.0	-4.1	-4.9	-0.1	-7.1	0.1	1.0	0.0
Mar-23	0.0	0.9	2.2	-1.2	0.2	1.5	-3.7	-4.5	1.9	-7.8	0.1	-0.8	-0.2
Percentage change, month on previous month													
Jan-22	0.2	0.2	-0.4	-1.7	2.2	2.4	-0.1	-0.8	2.2	4.4	0.5	1.3	0.1
Feb-22	-0.1	-0.1	0.3	-1.3	0.8	1.0	-0.4	-0.6	0.1	-0.2	-0.1	-0.2	0.7
Mar-22	0.1	0.0	0.2	0.6	-1.0	-0.3	-0.1	0.0	-1.6	0.7	0.2	1.8	0.3
Apr-22	0.0	0.1	0.2	-1.5	1.1	0.3	-0.6	-0.7	1.3	-2.8	1.2	-0.1	0.2
May-22	0.7	0.8	1.1	1.5	-0.2	0.9	0.0	0.2	0.3	0.9	-2.6	1.7	0.2
Jun-22	-0.9	-0.7	-0.9	-0.8	0.2	-0.8	-1.3	-1.7	-0.6	-2.5	1.3	-2.0	0.0
Jul-22	0.4	0.5	0.4	0.5	0.2	1.1	-0.7	-1.0	-0.6	5.5	-2.7	1.1	0.2
Aug-22	0.0	0.3	0.1	0.1	-0.8	1.4	-1.5	-1.3	-0.6	-8.4	0.4	0.3	-0.2
Sep-22	-0.6	-0.8	-0.4	0.0	-1.5	-2.4	-0.1	-0.2	-0.4	1.6	0.4	-0.3	-0.6
Oct-22	0.5	0.6	0.4	0.6	1.4	0.1	0.2	0.9	-2.9	-0.4	-1.3	0.7	0.0
Nov-22	0.2	0.2	0.2	-0.1	0.0	0.5	0.1	-0.6	0.7	3.5	2.0	-0.5	-0.1
Dec-22	-0.5	-0.8	0.4	-2.3	0.1	-0.7	0.3	0.0	5.2	-4.6	0.7	0.0	-0.1
Jan-23	0.3	0.5	0.2	1.5	0.1	0.7	-0.3	-0.4	0.4	-2.2	0.6	-1.7	0.0
Feb-23	-0.1	0.1	0.3	-0.3	-0.4	0.3	-0.1	-0.2	-1.0	2.1	0.0	0.1	0.1
Mar-23	0.1	0.0	0.3	-0.4	0.0	0.2	0.3	0.4	0.4	-0.1	0.1	0.0	0.1

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 was published in January and then updated four times (in February, March, April and May) before the ONS published 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. Figure 9 shows how our short-term forecasts for recent quarters have changed as new information has become available.

Figure 9 - Evolution of the NIESR quarterly GDP forecast (3 months on previous 3 months, per cent)



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. Table 2 shows the growth in each sector for the three months to January, compared with the previous three months, against the forecast for each in our February GDP Tracker.

Table 2 - 3-month-on-3-month growth to January (per cent)

	GDP	Index of Services	Index of Production	Manufacturing	Mining and Quarrying	Index of Construction
Forecast	-0.1	-0.1	0.2	-0.2	0.5	-0.1
Outturn	0.0	0.0	0.3	-0.2	-0.2	-0.7

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 (see, e.g., Figure 5).

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 the second quarter of 2020 when our GDP tracker in May pointed to growth of -22.8 per cent, 2.4 percentage points lower than the ONS first estimate of GDP growth.

Table 3 - Forecast Error Analysis: Quarterly GDP growth (per cent)

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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