NIESR Monthly GDP Tracker

UK economic outlook worsens following Q3 contraction

Paula Bejarano Carbo and Joanna Nowinska

11th November 2022

"Today's ONS estimates confirm a production-driven contraction in GDP in the third quarter of this year, with a quarter-on-quarter fall of 0.2 per cent. We are currently expecting GDP to be flat in the fourth quarter of this year. However, given that October PMIs recorded figures below the neutral 50 for both the services and manufacturing sectors, consumer and business confidence is plummeting, and higher-than-expected inflation and interest rates continue to squeeze budgets, the risk of a contraction in GDP in the fourth quarter of this year remains elevated. Whether the Chancellor's upcoming Autumn Statement will alleviate or aggravate current recessionary risks will become clearer next week."

Paula Bejarano Carbo

Associate Economist, NIESR
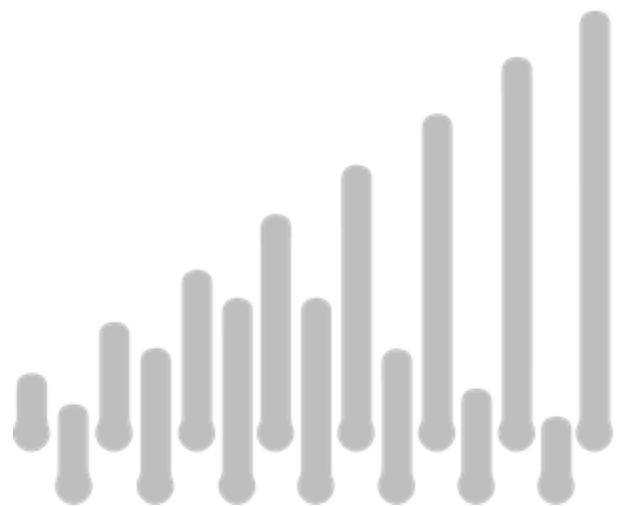
Main points

- GDP contracted by 0.2 per cent in the third quarter of 2022, slightly better than our forecast last month of a 0.3 per cent contraction. The contraction over the month was driven by a 0.8 per cent decrease in services output, which saw large falls in computer programming, consultancy and related activities overtake the slight rise in the human health and social work activities provided by Covid booster jabs.

- The S&P Global/CIPS UK Services and Manufacturing PMIs for October recorded headline business activity balances below the neutral 50 for both sectors, pointing to a strong risk that GDP might continue to fall in the fourth quarter of 2022.

- As the economic outlook worsens, business confidence continues to plummet: October PMIs recorded two-and-a-half year lows in business optimism for the year ahead for the services, manufacturing, and construction sectors.

- Aggressive monetary policy, persistent inflation, and anaemic activity in the manufacturing and services sectors in October bode poorly for UK economic performance in the fourth quarter of this year. Despite this negative outlook, we expect the energy price guarantees for households and firms, and growth in the construction sector to contribute to flat GDP growth in Q4.

- For a complete forecast of the UK economy and more detailed account of current economic conditions, please see our Autumn UK Economic Outlook, released today.

Figure 1 - UK GDP
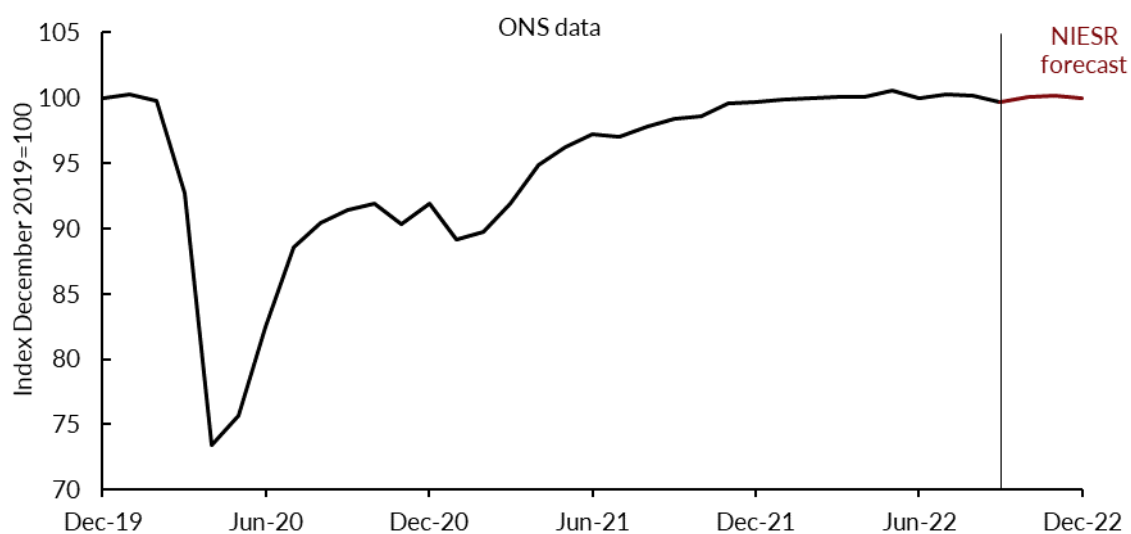
Economic setting

Since our previous GDP tracker (published 12 October), we have welcomed a new Chancellor of the Exchequer and, shortly after, a new Prime Minister (and his cabinet) to government; the majority of the measures outlined in the previous Chancellor's 'mini-budget' were overturned; the Bank of England's 'special operation' in the gilt market ended in time for its quantitative tightening programme to begin, followed by an eighth consecutive rate hike (of 75 basis points, bringing interest rates to 3 per cent); and we still await the new Chancellor's Autumn Statement, postponed from 31 October to 17 November. It is safe to say that, in this time, our forecast for UK GDP has seen some revisions.

In our Summer UK Economic Outlook published on August 2, we outlined that the UK economy was likely to enter recession in the third quarter of 2022 and remain there until the first quarter of 2023, with our forecast for year-on-year GDP growth at 3.5 per cent in 2022 and 0.5 per cent in 2023. Last month, we continued to forecast a fall in GDP in the third quarter of 2022 but expected the energy price guarantee announced in the mini-budget to moderate the economic downturn and lead to GDP growth of 0.9 per cent in the fourth quarter of this year. Today's ONS estimates confirm a contraction in GDP in the third quarter of this year, with a quarter-on-quarter fall of 0.2 per cent. We expect to see flat quarterly GDP growth in the fourth quarter of this year, as we now think the support offered by the energy price guarantee will be largely offset by the fall in confidence in households and businesses as well as the increased uncertainty, and higher-than-expected inflation and interest rates. That said, the risk of a contraction in GDP in the last quarter of this year remains elevated and we still expect a contraction in GDP in the first quarter of 2023. For a full forecast of the UK economy and more detailed account of current economic conditions, please see our Autumn UK Economic Outlook, released today.

Both aggressive monetary tightening and the expected upcoming fiscal tightening bode poorly for UK GDP growth in the short run (and will no doubt badly affect many UK households). To further contextualise recessionary risks, figure 2 compares spending and hiring indicators to pre-pandemic levels, while figure 3 records recent trends in PMIs. High frequency indicators suggest that vacancies are gradually decreasing, a sign that the labour market is slowly cooling on the demand-side. At the same time, average weekly card spending continues to fluctuate around the February 2020 level; it is likely that, as high inflation continues to squeeze consumer budgets and higher interest rates make credit card spending less desirable, this consumer demand indicator will continue to fall. Taken together, figures 2 and 3 suggest sluggish domestic demand may be a negative risk to GDP growth in the fourth quarter of this year. Figure 3 illustrates the steep decline in manufacturing and services output in the third quarter of 2022, reflected in the GDP data that came out today. If difficulties in these sectors, including rising input costs and Brexit-related trade difficulties, cannot be managed in the short run, they will also present a sizeable downside risk to GDP growth in the fourth quarter.

Figure 2 – Spending and hiring indicators (weekly indices)
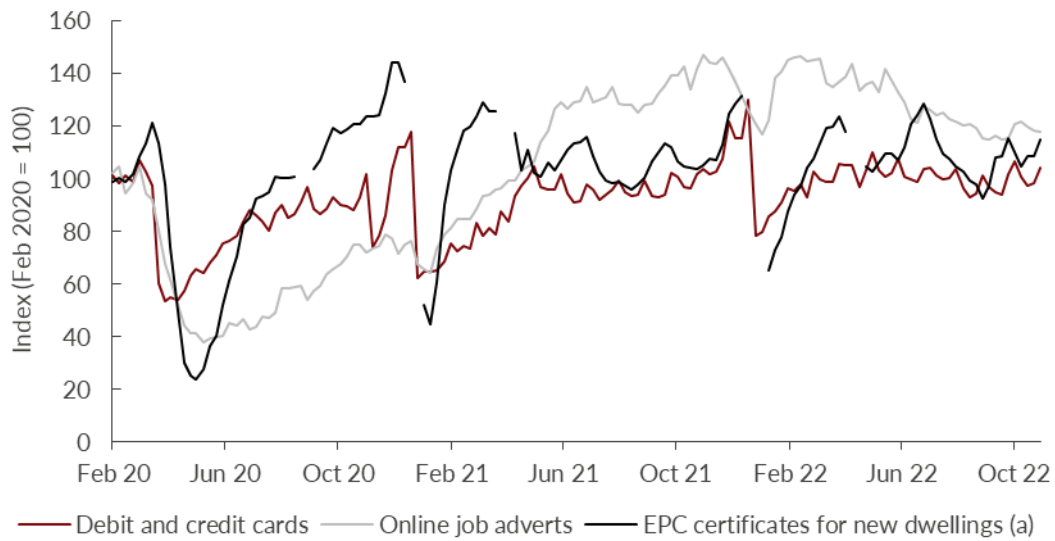
Notes: (a) England and Wales. Debit and credit cards (CHAPSbased): Index February 2020 = 100, a backward looking seven-day rolling average, non-seasonally adjusted, nominal prices. Job adverts: Index February 2020 = 100, weekly average. EPC certificates: Index February 2020 = 100, four–week rolling average, adjusted for timing of holidays.

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

Figure 3 – Recent trends in PMIs
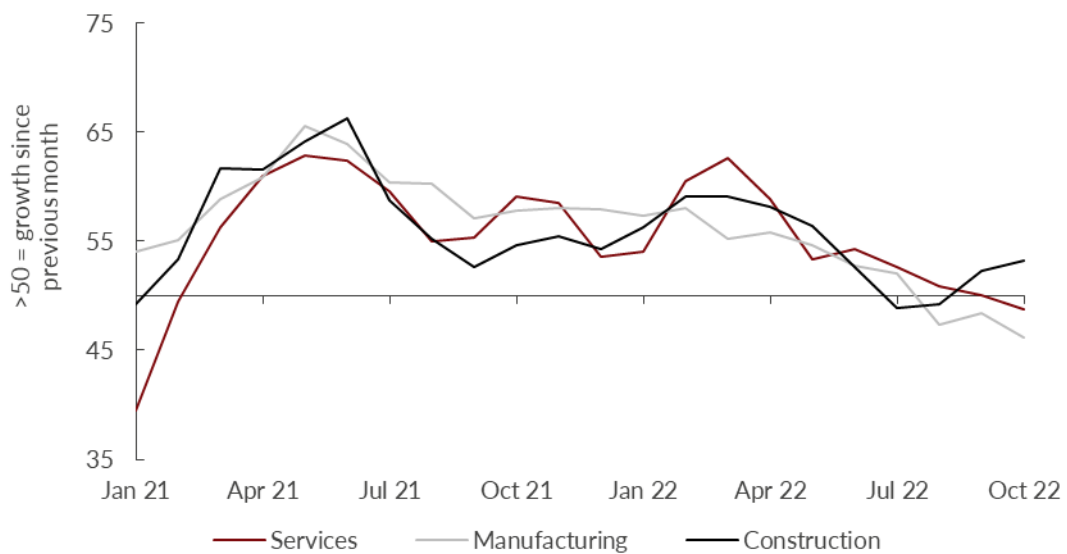
Sources: Refinitiv Datastream, S&P

News in latest ONS data

Although the monthly GDP data for September were worse than we had forecast in October, contracting by 0.6 per cent month-on-month, rather than growing by 0.2 per cent, the quarter-on-quarter fall in GDP of 0.2 per cent was less than the 0.3 per cent we were expecting on account of revisions to the July and August data (See figure 4).

Figure 4 – UK GDP growth (3 months on previous 3 months, per cent)
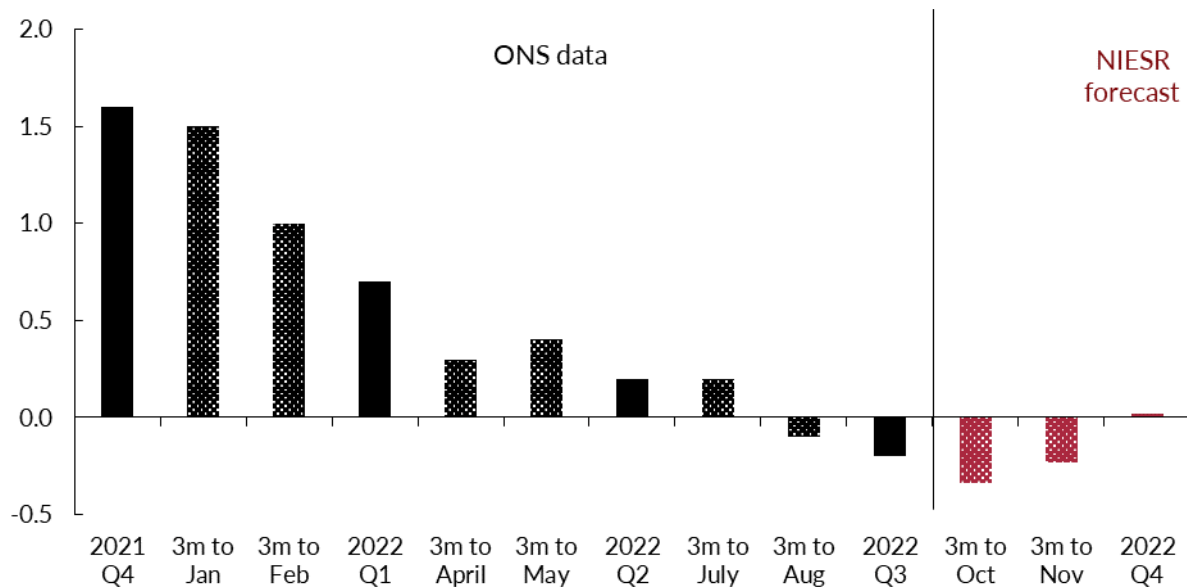
Figure 5 shows a heat map of the data surprises across sectors in the monthly data, relative to last month's GDP Tracker, highlighting the sectors where the surprises are large relative to the volatility of the output data. This month, there were no positive surprises, with the largest negative surprise coming from the transport, storage and communications sector.

Figure 5 – Surprises in monthly data

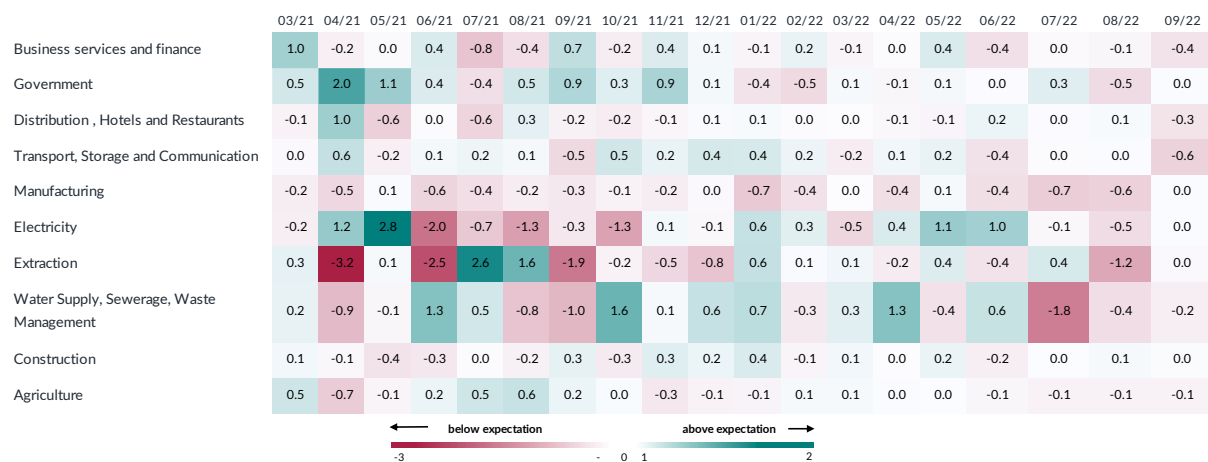|	03/21	04/21	05/21	06/21	07/21	08/21	09/21	10/21	11/21	12/21	01/22	02/22	03/22	04/22	05/22	06/22	07/22	08/22	09/22
Business services and finance	1.0	-0.2	0.0	0.4	-0.8	-0.4	0.7	-0.2	0.4	0.1	-0.1	0.2	-0.1	0.0	0.4	-0.4	0.0	-0.1	-0.4
Government	0.5	2.0	1.1	0.4	-0.4	0.5	0.9	0.3	0.9	0.1	-0.4	-0.5	0.1	-0.1	0.1	0.0	0.3	-0.5	0.0
Distribution , Hotels and Restaurants	-0.1	1.0	-0.6	0.0	-0.6	0.3	-0.2	-0.2	-0.1	0.1	0.1	0.0	0.0	-0.1	-0.1	0.2	0.0	0.1	-0.3
Transport, Storage and Communication	0.0	0.6	-0.2	0.1	0.2	0.1	-0.5	0.5	0.2	0.4	0.4	0.2	-0.2	0.1	0.2	-0.4	0.0	0.0	-0.6
Manufacturing	-0.2	-0.5	0.1	-0.6	-0.4	-0.2	-0.3	-0.1	-0.2	0.0	-0.7	-0.4	0.0	-0.4	0.1	-0.4	-0.7	-0.6	0.0
Electricity	-0.2	1.2	2.8	-2.0	-0.7	-1.3	-0.3	-1.3	0.1	-0.1	0.6	0.3	-0.5	0.4	1.1	1.0	-0.1	-0.5	0.0
Extraction	0.3	-3.2	0.1	-2.5	2.6	1.6	-1.9	-0.2	-0.5	-0.8	0.6	0.1	0.1	-0.2	0.4	-0.4	0.4	-1.2	0.0
Water Supply, Sewerage, Waste Management	0.2	-0.9	-0.1	1.3	0.5	-0.8	-1.0	1.6	0.1	0.6	0.7	-0.3	0.3	1.3	-0.4	0.6	-1.8	-0.4	-0.2
Construction	0.1	-0.1	-0.4	-0.3	0.0	-0.2	0.3	-0.3	0.3	0.2	0.4	-0.1	0.1	0.0	0.2	-0.2	0.0	0.1	0.0
Agriculture	0.5	-0.7	-0.1	0.2	0.5	0.6	0.2	0.0	-0.3	-0.1	-0.1	0.1	0.1	0.0	0.0	-0.1	-0.1	-0.1	-0.1

◄─── below expectation   above expectation ───►

-3   -   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.

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

Sectoral detail

We forecast GDP to be flat in the fourth quarter of 2022, as we now think the support offered by the energy price guarantee and growth in the construction sector will be largely offset by the fall in business and consumer confidence as well as higher-than-expected inflation and interest rates.

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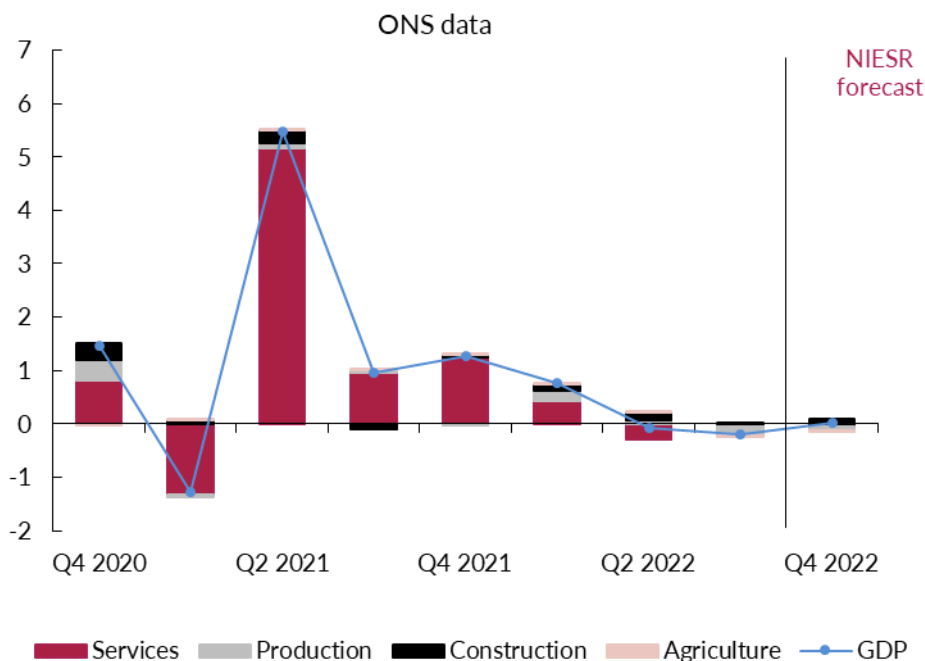

Services (80 per cent of GDP)

The survey balances point to a worrying fall in services in October, as shown by the survey indicators in figures 3 and 7. The S&P Global/CIPS UK Services PMI registered a headline business activity balance of 48.8 in October, down from 50.0 in September, representing the weakest service sector performance since January 2021, when the UK remained in a national lockdown. On the demand-side, this flattening of services output is driven by lower volumes of new work resulting from plummeting confidence and cost-cutting efforts by clients worried about the ongoing cost of living crisis. On the supply-side, input price inflation – including that resulting from high wage pressure in the tight labour market and rising energy costs – continues to weigh on business activity. It is no surprise that the degree of business optimism for the year ahead has fallen to its lowest level since April 2020. Moreover, excluding the exceptionally low

level recorded in March 2020, this index has fallen to its lowest level since December 2008, the nadir of the Great Recession.

Internationally, the JPMorgan Global Services Business Activity index fell to 49.2 in October from 50.0 in September. The JPMorgan Global Composite Output Index decreased to 49.0 in October from 49.6 in September. Overall, these figures indicate a worsening of the global economic downturn in services. Global business optimism in this sector has slumped to a 28-month low.

Based on recent developments we expect UK service sector activity to contract in the fourth quarter of 2022 by 0.1 per cent.

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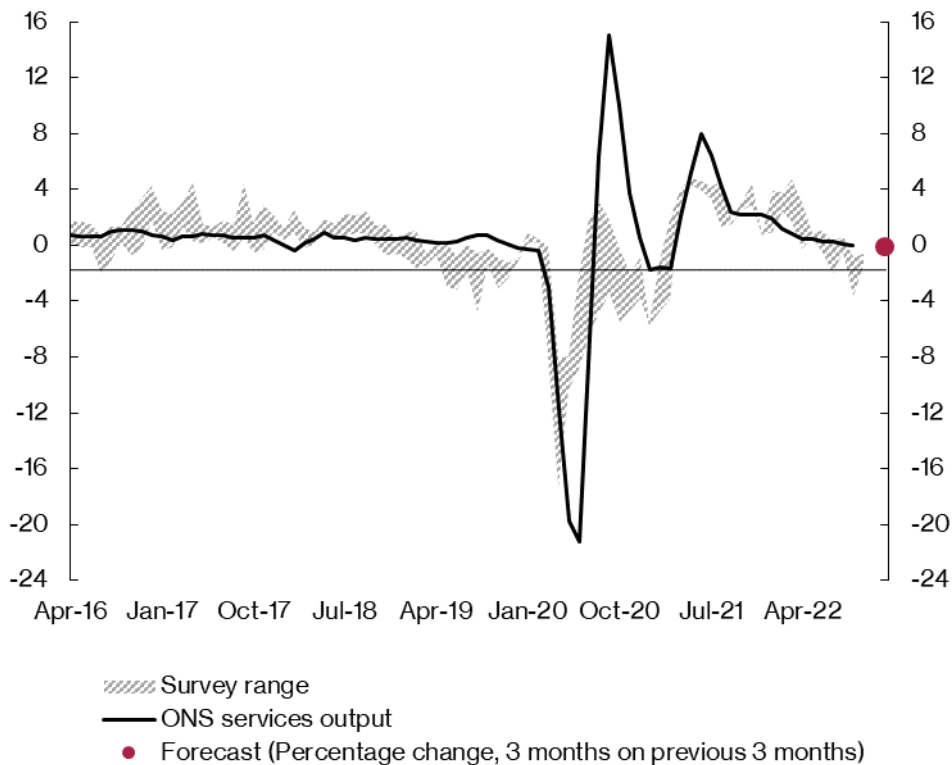
Note: The shaded swathe shows the highest and lowest values each month of a range of business survey balances that have been standardised so that they have the same mean and standard deviation as the quarterly growth of the ONS series.
Source: ONS, CBI, Markit, Bank of England Agents, EC, NIESR calculations.

Production (14 per cent of GDP)

We forecast that production sector output will contract by 0.4 per cent in the fourth quarter of 2022, 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 October fell from an already-weak 48.4 in September to a 29-month low of 46.2 in October, signalling significant distress in this sector. This marks the third consecutive month this sector has contracted (as noted by recording figures below the neutral 50), driven by a combination of weakened domestic and export demand, eroding consumer confidence and Brexit-related trade difficulties. Worryingly, business optimism appears to have slumped to a two-and-a-half year low.

The S&P Global/CIPS UK Composite PMI – which combines comparable services and manufacturing indices – decreased from 49.1 in September to 48.2 in October, its lowest since January 2021. This measure, now below the neutral 50 for a third consecutive month, indicates reduced overall private sector output.

The JPMorgan Global Manufacturing Output PMI also fell to 49.4 in October, a 28-month low, from 49.8 in September. This global manufacturing downturn was driven by reduced output in the intermediate goods sector.

Our forecast for the fourth quarter of 2022 is for manufacturing output to contract by 0.7 per cent (See figure 8).

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 2.3 per cent in the fourth quarter of 2022.

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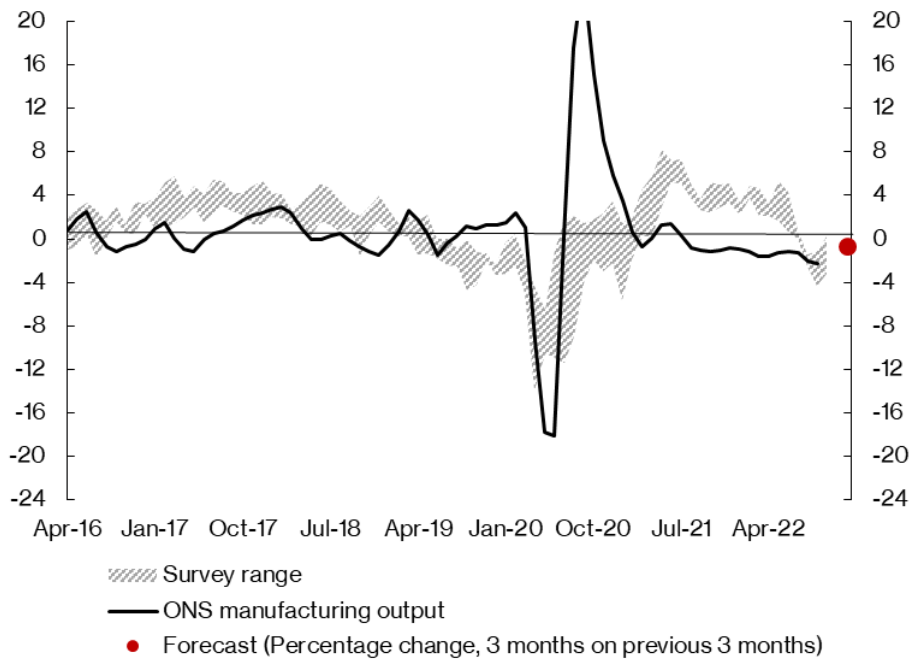
Note: The shaded swathe shows the highest and lowest values each month of a range of business survey balances that have been standardised so that they have the same mean and standard deviation as the quarterly growth of the ONS series.
Source: ONS, CBI, Markit, Bank of England Agents, EC, NIESR calculations.

Construction (6 per cent of GDP)

The S&P Global/CIPS UK Construction PMI survey registered a welcome rise to 53.2 in October from 52.3 in September, signalling a recovery in construction output following the slump observed in the second quarter of this year. Despite this positive outlook, survey respondents recorded a two-and-a-half year low in business optimism in this sector due to current economic conditions.

We expect construction output to grow by 1.5 per cent in the fourth quarter of 2022.

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		
Sep-21	98.8	97.1	102.6	94.8	89.8	94.9	108.3	109.5	110.2	90.9	111.5	98.4	104.9
Oct-21	99.0	97.6	102.4	95.6	88.9	97.1	107.5	108.9	105.3	90.2	114.7	97.7	105.0
Nov-21	100.0	98.8	103.5	98.0	88.8	98.0	107.6	108.8	108.4	88.3	115.0	99.2	104.7
Dec-21	100.1	98.7	103.8	98.8	86.2	98.6	107.7	109.0	108.6	85.5	115.8	100.1	104.8
Jan-22	100.3	99.0	103.8	97.7	87.5	100.6	107.2	107.5	110.6	89.9	116.5	101.4	105.0
Feb-22	100.4	99.2	104.7	96.5	88.1	101.5	106.9	107.0	111.0	90.3	116.4	101.4	105.5
Mar-22	100.5	99.2	104.9	96.2	88.3	101.0	106.9	107.0	109.4	91.3	117.5	102.8	105.9
Apr-22	100.5	99.3	105.0	95.8	88.2	101.5	106.7	106.2	111.7	89.2	120.1	102.6	106.0
May-22	101.0	99.7	106.1	95.9	87.4	102.6	107.1	106.3	114.5	90.4	119.2	103.5	106.2
Jun-22	100.4	99.1	105.4	95.8	87.8	101.2	106.8	105.4	117.6	89.2	120.2	102.7	106.2
Jul-22	100.7	99.6	105.6	96.4	87.8	102.3	106.1	104.3	117.8	93.6	117.5	103.0	106.4
Aug-22	100.6	99.7	106.1	95.9	87.6	102.8	104.6	103.2	116.6	86.0	118.3	103.6	106.2
Sep-22	100.0	98.8	105.4	96.0	86.1	100.6	104.9	103.2	118.3	86.6	118.7	104.0	105.7
Oct-22	100.5	99.3	105.8	96.1	86.5	101.6	104.9	103.1	118.5	87.7	118.7	104.5	105.2
Nov-22	100.5	99.4	106.1	96.0	86.2	101.8	104.7	102.6	120.4	86.5	118.9	105.0	105.0
Dec-22	100.4	99.1	105.6	96.0	86.0	101.8	104.7	102.8	120.3	85.9	119.1	105.6	105.1

Percentage change, 3 months on previous 3 months

2019=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-21	1.7	2.4	0.7	4.4	4.6	2.0	-0.6	-1.1	-8.6	20.0	1.0	-1.1	3.8
Oct-21	1.5	2.2	0.9	4.2	2.2	2.2	-1.1	-1.1	-10.7	18.5	0.1	-0.7	2.6
Nov-21	1.6	2.2	1.5	4.8	0.2	2.0	-1.2	-1.0	-7.2	7.5	0.1	0.6	1.0
Dec-21	1.6	2.2	1.6	4.9	-1.6	2.9	-1.2	-0.8	-5.0	-2.3	2.0	1.0	0.2
Jan-22	1.5	1.9	1.6	4.0	-2.4	3.3	-0.8	-0.9	-0.1	-4.7	2.4	2.4	-0.2
Feb-22	1.0	1.2	1.2	1.6	-2.1	3.7	-0.5	-1.1	1.9	-1.4	2.2	2.5	0.2
Mar-22	0.7	0.8	1.2	-0.7	0.0	3.2	-0.6	-1.6	2.7	2.8	1.4	2.9	0.6
Apr-22	0.3	0.4	1.1	-2.0	0.8	2.3	-0.6	-1.6	1.4	2.7	1.9	2.0	0.9
May-22	0.4	0.4	1.2	-1.7	0.8	1.5	-0.3	-1.2	1.6	2.0	2.3	2.0	0.9
Jun-22	0.2	0.2	1.0	-1.0	-0.2	0.7	-0.1	-1.1	3.9	-1.0	2.6	1.1	0.6
Jul-22	0.2	0.2	0.8	-0.1	-0.6	0.7	-0.2	-1.3	5.4	0.9	0.8	0.8	0.4
Aug-22	-0.1	0.1	0.3	0.1	-0.3	0.4	-1.0	-2.1	4.9	-0.8	-0.2	0.2	0.2
Sep-22	-0.2	0.0	0.2	0.3	-0.7	0.1	-1.6	-2.3	2.6	-1.0	-1.4	0.6	0.0
Oct-22	-0.3	-0.2	0.1	0.0	-1.1	-0.4	-1.8	-2.1	1.0	-4.7	-0.3	0.9	-0.5
Nov-22	-0.2	-0.3	0.1	0.0	-1.7	-0.7	-1.0	-1.3	1.5	-3.0	0.1	1.4	-0.9
Dec-22	0.0	-0.1	0.1	-0.1	-1.1	-0.1	-0.4	-0.7	1.8	-2.3	0.7	1.5	-0.9

Percentage change, month on same month in previous year

2019=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-21	7.6	9.0	6.7	15.9	6.9	7.2	1.7	2.3	-3.8	-1.8	5.9	5.9	8.4
Oct-21	7.3	9.1	5.9	16.0	8.2	7.5	-0.1	0.4	-5.0	-5.2	7.0	3.2	9.4
Nov-21	10.3	13.4	7.0	21.7	24.9	9.3	-1.6	-2.2	-1.9	-4.0	6.8	4.2	9.2
Dec-21	8.5	10.8	4.1	20.6	15.2	10.3	-2.2	-1.8	-4.4	-11.7	4.6	6.8	7.8
Jan-22	12.1	15.1	5.3	29.1	29.4	12.7	-1.0	-0.9	-4.2	-5.2	5.4	10.1	7.8
Feb-22	11.4	14.8	5.7	27.0	26.0	14.2	-1.7	-2.2	-4.9	2.1	3.9	6.0	7.2
Mar-22	8.9	11.7	3.9	20.6	23.0	12.0	-2.6	-3.3	-5.6	1.8	4.5	4.3	6.2
Apr-22	5.6	7.4	4.5	10.9	8.4	8.7	-2.2	-4.2	-7.3	18.6	8.4	2.7	6.7
May-22	4.6	6.2	5.5	7.5	1.3	10.6	-3.4	-4.7	-12.1	15.2	7.4	4.3	5.5
Jun-22	2.9	3.7	3.7	4.9	-0.9	8.0	-1.8	-4.7	-2.2	25.1	5.8	4.7	3.7
Jul-22	3.4	4.5	4.5	5.7	-0.3	7.8	-2.7	-5.2	1.0	11.8	2.8	5.0	2.4
Aug-22	2.4	3.5	4.9	3.5	-2.9	7.4	-4.4	-6.2	3.7	-9.9	4.8	6.4	1.0
Sep-22	1.2	1.8	2.7	1.3	-4.1	6.0	-3.1	-5.8	7.4	-4.7	6.5	5.6	0.8
Oct-22	1.5	1.8	3.4	0.5	-2.7	4.7	-2.4	-5.3	12.5	-2.8	3.5	7.0	0.2
Nov-22	0.5	0.6	2.5	-2.1	-2.9	3.9	-2.7	-5.7	11.0	-2.1	3.4	5.9	0.3
Dec-22	0.3	0.4	1.7	-2.8	-0.3	3.2	-2.8	-5.7	10.7	0.4	2.9	5.5	0.3

Percentage change, month on previous month

2019=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-21	0.6	0.8	1.5	2.3	-0.4	-0.8	-1.0	-0.5	-2.0	-4.8	-1.2	1.1	-0.2
Oct-21	0.2	0.5	-0.2	0.8	-1.0	2.3	-0.7	-0.5	-4.4	-0.8	2.9	-0.8	0.1
Nov-21	1.0	1.2	1.1	2.5	-0.1	0.9	0.1	-0.1	2.9	-2.1	0.3	1.5	-0.3
Dec-21	0.1	-0.1	0.3	0.8	-2.9	0.6	0.1	0.2	0.2	-3.2	0.7	0.9	0.1
Jan-22	0.2	0.3	0.0	-1.1	1.5	2.0	-0.5	-1.4	1.8	5.1	0.6	1.3	0.2
Feb-22	0.1	0.2	0.9	-1.2	0.7	0.9	-0.3	-0.5	0.4	0.4	-0.1	0.0	0.5
Mar-22	0.1	0.0	0.2	-0.3	0.2	-0.5	0.0	0.0	-1.4	1.1	0.9	1.4	0.4
Apr-22	0.0	0.1	0.1	-0.4	-0.1	0.5	-0.2	-0.7	2.1	-2.3	2.2	-0.2	0.1
May-22	0.5	0.4	1.0	0.1	-0.9	1.1	0.4	0.1	2.5	1.3	-0.7	0.9	0.2
Jun-22	-0.6	-0.6	-0.7	-0.1	0.5	-1.4	-0.3	-0.8	2.7	-1.3	0.8	-0.7	0.0
Jul-22	0.3	0.5	0.2	0.6	0.0	1.1	-0.7	-1.0	0.2	4.9	-2.2	0.2	0.2
Aug-22	-0.1	0.1	0.5	-0.5	-0.2	0.5	-1.4	-1.1	-1.0	-8.1	0.7	0.6	-0.2
Sep-22	-0.6	-0.9	-0.7	0.1	-1.7	-2.1	0.3	0.0	1.5	0.7	0.3	0.4	-0.5
Oct-22	0.5	0.5	0.4	0.1	0.4	1.0	0.0	-0.1	0.2	1.3	0.0	0.5	-0.4
Nov-22	0.1	0.1	0.3	-0.1	-0.3	0.2	-0.2	-0.5	1.6	-1.4	0.2	0.5	-0.2
Dec-22	-0.2	-0.3	-0.5	0.0	-0.3	-0.1	0.1	0.1	-0.1	-0.7	0.2	0.5	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)
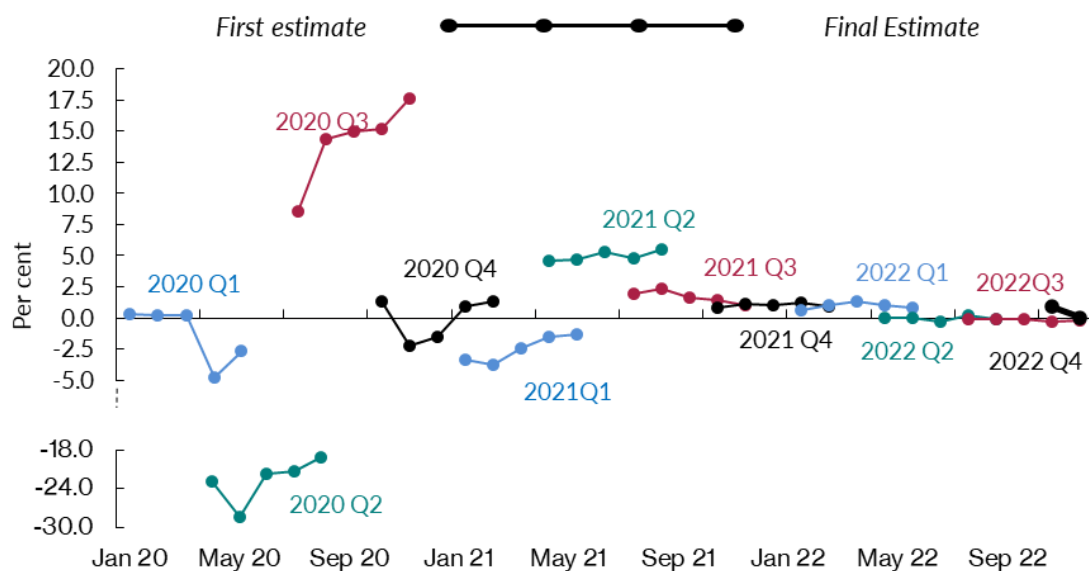
NIESR's short-term predictions of monthly GDP growth are based on bottom-up analysis of recent trends in the monthly sub-components of GDP. These predictions are constructed by aggregating statistical model forecasts of ten sub-components of GDP. The statistical models that have been developed make use 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 September, compared with the previous three months, against the forecast for each in our October GDP Tracker.

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

	GDP	Index of Services	Index of Production	Manufacturing	Mining and Quarrying	Index of Construction
Forecast	-0.3	0.0	-2.3	-2.7	-3.7	0.2
Outturn	-0.2	0.0	-1.6	-2.3	-1.0	0.6

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, up until the Covid pandemic. We calculate the forecast quarter-on-quarter growth rates for the current quarter and compare these to the ONS first estimates of quarterly 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
Average absolute error				0.22	0.08

Notes for Editors:

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