

Data and analysis from Census 2021

GDP quarterly national accounts, UK: April to June 2023

Revised quarterly estimate of gross domestic product (GDP) for the UK.
Uses additional data to provide a more precise indication of economic growth than the first estimate.

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Table of contents

1. Main points
2. Headline GDP figures
3. Output
4. Expenditure
5. Income
6. Revisions to GDP
7. Quarterly sector accounts
8. International comparisons
9. GDP quarterly national accounts data
10. Glossary
11. Measuring the data
12. Strengths and limitations
13. Related links
14. Cite this statistical bulletin

1. Main points

- UK gross domestic product (GDP) is estimated to have increased by an unrevised 0.2% in Quarter 2 (Apr to June) 2023.
- UK GDP is now estimated to have increased by 0.3% in Quarter 1 (Jan to Mar) 2023, revised up from a previous estimate of 0.1%, while growth across all quarters of 2022 is unrevised.
- In output terms, growth in the latest quarter was driven by a 1.2% increase in the production sector, where there were increases in 9 out of the 13 sub-sectors; this reflects falling input prices across the quarter relieving some pressure on manufacturers.
- The household saving ratio grew by 9.1% in the latest quarter, up from 7.9% in Quarter 1 2023, with income (driven by a rise in social benefits together with increased wages and salaries) growing more than expenditure.
- Real households' disposable income (RHDI) grew by 1.2% in Quarter 2 (Apr to June) 2023 following no change in the previous quarter.

2. Headline GDP figures

UK gross domestic product (GDP) is estimated to have increased by an unrevised 0.2% in Quarter 2 (Apr to June) 2023. This follows upwardly revised growth of 0.3% in the previous quarter (previously 0.1%). Figure 1 shows there have been minimal revisions to GDP from 2022 onwards, with only one of the six recent quarters revised.

In line with the [National Accounts Revisions Policy](#)

(<https://www.ons.gov.uk/methodology/methodologytopicsandstatisticalconcepts/revisions/revisionspoliciesforeconomicstatistics/nationalaccountsrevisionspolicyupdateddecember2017>), this release contains data that are consistent with the UK National Accounts, the Blue Book 2023, which will be released on 31 October 2023. We [preannounced the revisions to estimates up to 2021](#)

(<https://www.ons.gov.uk/economy/grossdomesticproductgdp/articles/impactofbluebook2023changesongrossdomesticproduct/2023-09-01#overview>) in our article on 1 September. As noted previously, these revisions were larger than normal, reflecting the larger movements in GDP and the practical challenges of estimating GDP throughout the coronavirus (COVID-19) pandemic.

This release now includes revisions to 2022 and 2023 as a result of the Blue Book 2023 methodological changes, including improved source data and additional updated data, as would happen in all quarterly national accounts releases. This also includes new Value Added Tax (VAT) turnover data for Quarter 4 (Oct to Dec) 2022 and Quarter 1 (Jan to Mar) 2023. Based on these new data, we have also reviewed the balancing of the three approaches to measuring GDP from 2022 onwards.

While the quarterly path of real GDP at an aggregate level is unrevised across all of 2022 and Quarter 2 2023, there have been some revisions to individual components for GDP. For more information, see [Section 6: Revisions to GDP](#)

(<https://www.ons.gov.uk/economy/grossdomesticproductgdp/bulletins/quarterlynationalaccounts/apriltojune2023#revisions-to-gdp>). An indicative monthly real GDP path consistent

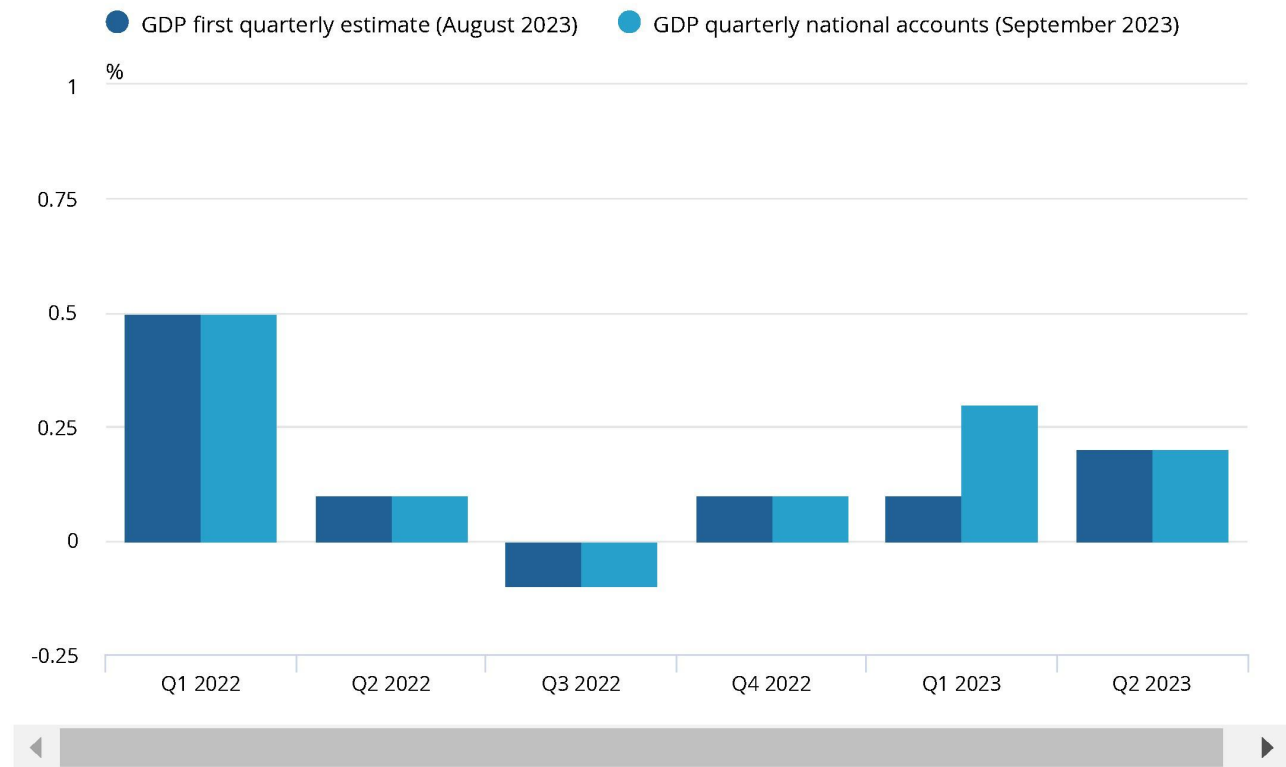
with these quarterly figures can be found in our [associated dataset](https://www.ons.gov.uk/economy/grossdomesticproductgdp/datasets/indicativemonthlygdppconsistentwithquarterlynationalaccounts) (<https://www.ons.gov.uk/economy/grossdomesticproductgdp/datasets/indicativemonthlygdppconsistentwithquarterlynationalaccounts>).

Early estimates of GDP are subject to revision (positive or negative). For more information, please refer to our [Communicating the UK economic cycle methodology](https://www.ons.gov.uk/economy/grossdomesticproductgdp/methodologies/communicatingtheukeconomiccycle) (<https://www.ons.gov.uk/economy/grossdomesticproductgdp/methodologies/communicatingtheukeconomiccycle>).

The coronation of King Charles III on 6 May 2023 led to an additional bank holiday on Monday 8 May. As this was a one-off event, the impact does not get removed from our seasonally adjusted estimates. This should be considered when interpreting the seasonally adjusted movements involving May and June 2023, and to a lesser extent, the Quarter 2 2023 estimates.

Figure 1: Real GDP is estimated to have increased by 0.2% in Quarter 2 (Apr to June) 2023, unrevised from the first estimate

UK, Quarter 1 (Jan to Mar) 2022 to Quarter 2 (Apr to June) 2023



Source: GDP quarterly national accounts from the Office for National Statistics

Notes:

1. Q1 refers to Quarter 1 (Jan to Mar), Q2 refers to Quarter 2 (Apr to June), Q3 refers to Quarter 3 (July to Sept) and Q4 refers to Quarter 4 (Oct to Dec).
2. Chart shows the quarter on previous quarter growth (%).

UK GDP is now estimated to have increased by 4.3% in 2022, revised from a first estimate of 4.1%. As announced in our previous [Impact of Blue Book 2023 changes on gross domestic product article](https://www.ons.gov.uk/economy/grossdomesticproductgdp/articles/impactofbluebook2023changesongrossdomesticproduct/2023-09-01#next-steps-publication-and-addition-of-2022-to-2023-data)

(<https://www.ons.gov.uk/economy/grossdomesticproductgdp/articles/impactofbluebook2023changesongrossdomesticproduct/2023-09-01#next-steps-publication-and-addition-of-2022-to-2023-data>) on 1 September 2023, annual volume GDP growth in 2021 is revised up 1.1 percentage points to an 8.7% increase; this follows a revised 10.4% fall in 2020 (previously an 11.0% fall).

Taking into account all our recent revisions, this means that GDP is now estimated to be 1.8% above pre-coronavirus (COVID-19) pandemic levels in Quarter 2 (Apr to June) 2023.

Nominal GDP is estimated to have increased by 2.5% in Quarter 2 2023, revised up from a previous estimate of 2.3%.

Table 1: Headline national accounts indicators for the UK**% growth [note 1]**

	Chained volume measures		Current market prices	
	GDP	GDP per head [note 3]	GDP	GDP implied deflator
Seasonally adjusted				
2022	4.3	3.2	9.7	5.2
Q1 2022	0.5	0.2	2.0	1.5
Q2 2022	0.1	-0.2	2.2	2.1
Q3 2022	-0.1	-0.2	1.4	1.5
Q4 2022	0.1	0.0	2.2	2.1
Q1 2023	0.3	0.2	2.1	1.8
Q2 2023	0.2	0.1	2.5	2.4

Source: GDP quarterly national accounts from the Office for National Statistics

Notes

1. Percentage change on previous period.
2. Q1 refers to Quarter 1 (Jan to Mar), Q2 refers to Quarter 2 (Apr to June), Q3 refers to Quarter 3 (July to Sept) and Q4 refers to Quarter 4 (Oct to Dec).
3. Population data are consistent with the mid-2020 estimates published on 27 January 2023.



The implied GDP deflator represents the broadest measure of inflation in the domestic economy, reflecting changes in the price of all goods and services that comprise GDP. It is important to note that the GDP deflator covers the whole of the domestic economy, not just consumer spending, and also reflects the change in the relative price of exports to imports. For more information on the implied GDP deflator, see our [Measuring price changes of the UK national accounts: February 2023 article](https://www.ons.gov.uk/economy/nationalaccounts/uksectoraccounts/articles/measuringpricechangesoftheuknationalaccounts/2023-02-08) (<https://www.ons.gov.uk/economy/nationalaccounts/uksectoraccounts/articles/measuringpricechangesoftheuknationalaccounts/2023-02-08>).

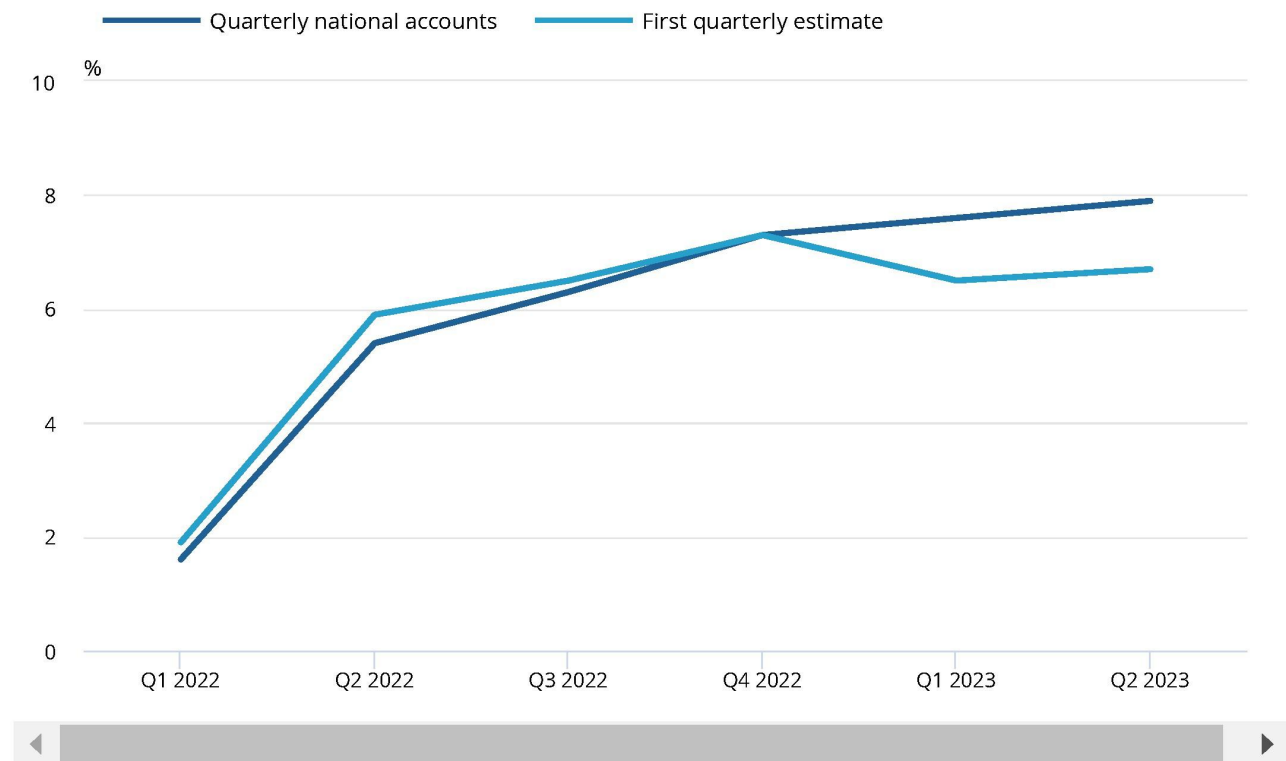
The implied price of GDP rose by a revised 2.4% in Quarter 2 2023 (previously 2.1%), which was primarily driven by higher price pressures for household consumption and government consumption.

Revisions to the implied deflator, particularly in Quarter 1 and 2 2023, are driven by upward revisions in the implied price for government consumption, household consumption and gross capital formation.

Compared with the same quarter a year ago, there was a 7.9% increase in the GDP implied deflator, revised from a first estimate of 6.7% (Figure 2). In the year to Quarter 2 2023, growth has been driven by strong rises in the price of household consumption, though there was a slowing in how much these prices increased. There have also been large price movements in internationally traded goods and services, where there was an easing in the implied price of imports; this contributes positively to the increase in the GDP implied deflator. Further information on the price movements of trade is discussed in our [Purchasing power of GDP, UK: 2022 article](https://www.ons.gov.uk/releases/thetermsoftradethepurchasingpowerofgdp) (<https://www.ons.gov.uk/releases/thetermsoftradethepurchasingpowerofgdp>).

Figure 2: The implied price of GDP increased by revised 7.9% in Quarter 2 (Apr to June) 2023 compared with the same quarter a year ago

UK, quarter on quarter a year ago growth in the implied price of GDP, Quarter 1 (Jan to Mar) 2022 to Quarter 2 (Apr to June) 2023



Source: GDP quarterly national accounts from the Office for National Statistics

Notes:

1. Q1 refers to Quarter 1 (Jan to Mar), Q2 refers to Quarter 2 (Apr to June), Q3 refers to Quarter 3 (July to Sept) and Q4 refers to Quarter 4 (Oct to Dec).

More about economy, business and jobs

- All ONS analysis, summarised in our [economy, business and jobs roundup](https://www.ons.gov.uk/economy/economicoutputandproductivity/output/articles/ukeconomylatest/2021-01-25) (<https://www.ons.gov.uk/economy/economicoutputandproductivity/output/articles/ukeconomylatest/2021-01-25>).
- Explore the latest trends in employment, prices and trade in our [economic dashboard](https://www.ons.gov.uk/economy/nationalaccounts/articles/dashboardunderstandingtheukeconomy/2017-02-22) (<https://www.ons.gov.uk/economy/nationalaccounts/articles/dashboardunderstandingtheukeconomy/2017-02-22>).

- View all economic data (<https://www.ons.gov.uk/economy/datalist?filter=datasets>).

3. Output

In Quarter 2 (Apr to June) 2023, output is estimated to have increased by 0.2% (unrevised from the first estimate). The services sector is now estimated to show no growth in the second quarter of 2023, revised down from a first estimate of 0.1%. The production sector is now estimated to have increased by 1.2%, revised up from a first estimate of 0.7%. Elsewhere construction output is unrevised from a first estimate increase of 0.3%.

Services

Services output is now estimated to show no growth in the latest quarter, revised down from a first estimate increase of 0.1%. Figure 3 shows that there was a mixed performance for the service sub-sectors in the first quarter, with growth in 8 out of the 14 sub-sectors partially offset by falls in the other 6. This position is largely unchanged from the first estimate.

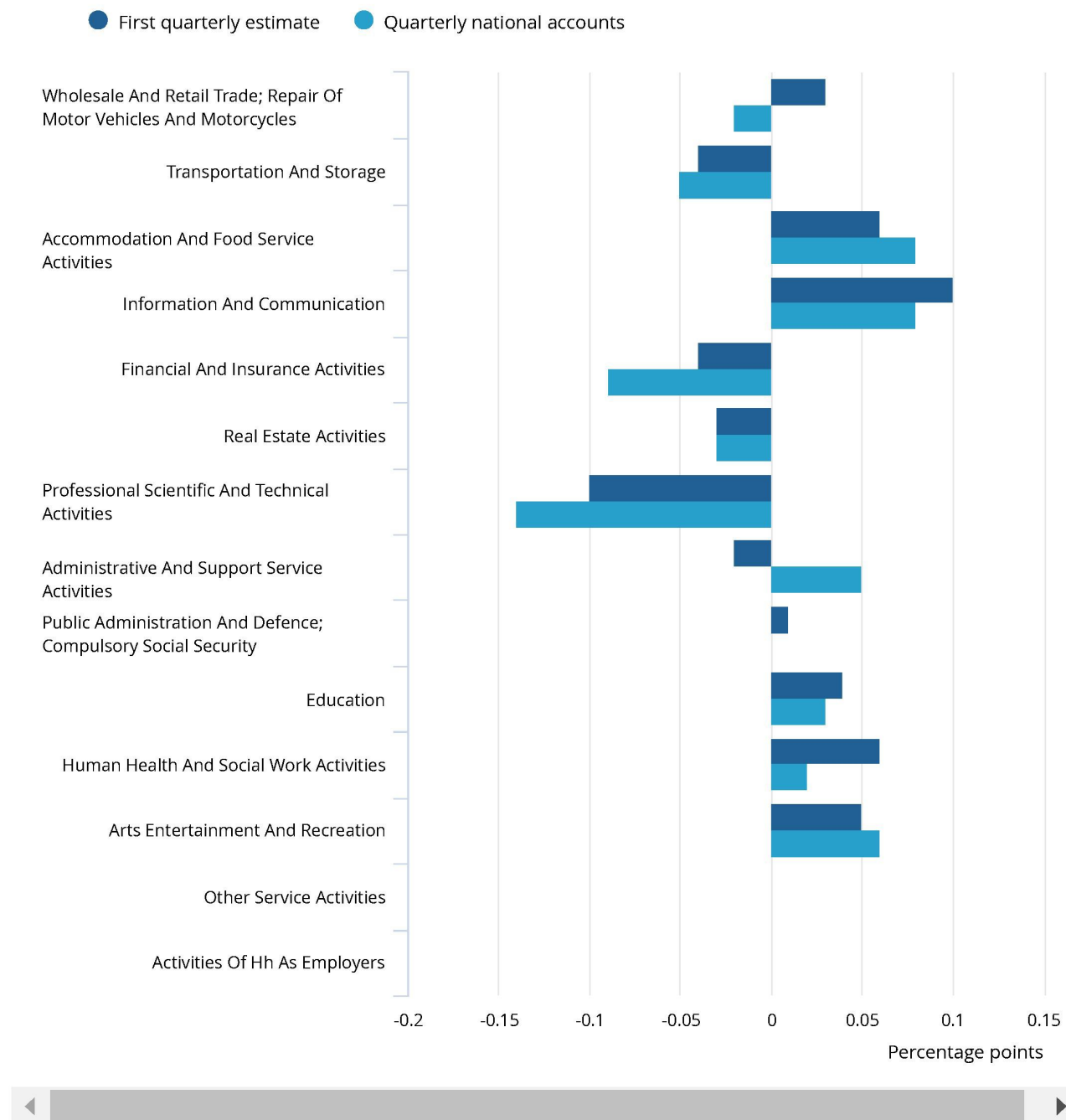
Overall, consumer-facing services grew by 0.9% in Quarter 2 2023, revised up from growth of 0.8% in our first estimate.

The largest positive contribution to growth was from the information and communication sub-sector, which grew by 0.9%. The biggest increases were in motion picture, video and TV programme production, and computer programming, consultancy and related activities. The next largest positive contribution to growth was from accommodation and food service activities, which increased by 2.1%. This was driven by food and beverage services, which saw a particularly strong month in June. Anecdotal evidence from the Monthly Business Survey suggested that good weather and an increase in live events boosted turnover for businesses.

The largest negative contribution to growth was from the professional, scientific and technical activities subsector, which fell by 1.3%, with declines in scientific research and development, architectural and engineering activities, and advertising and market research.

Figure 3: There have been minimal revisions to quarterly growth across the services sector in Quarter 2 (Apr to June) 2023

UK, contributions to services growth, Quarter 2 (Apr to June) 2023



Source: GDP quarterly national accounts from the Office for National Statistics

Notes:

1. Components contribution may not sum to total because of rounding.

Across 2022 and 2023, the services sector sees revisions to growth mainly driven by the government and other services sub-sector (Figure 4). Overall, the revisions to services mainly reflect human health and social work activities, education, and business services and finances.

Human health and social work activities (within government services) saw revisions over the course of 2021, as explained in our [Impact of Blue Book 2023 changes on gross domestic product article](#)

(<https://www.ons.gov.uk/economy/grossdomesticproductgdp/articles/impactofbluebook2023changesongrossdomesticproduct/2023-09-01#overview>). We have reflected more timely information on the inputs as part of producing the output of human health and social work activities, which are now being used to construct estimates of gross value added for 2022 and 2023.

Education (within government services) has been updated with estimates on school attendance. For further information please, refer to the Consumption of government goods and services sub-section in [Section 4: Expenditure](#)

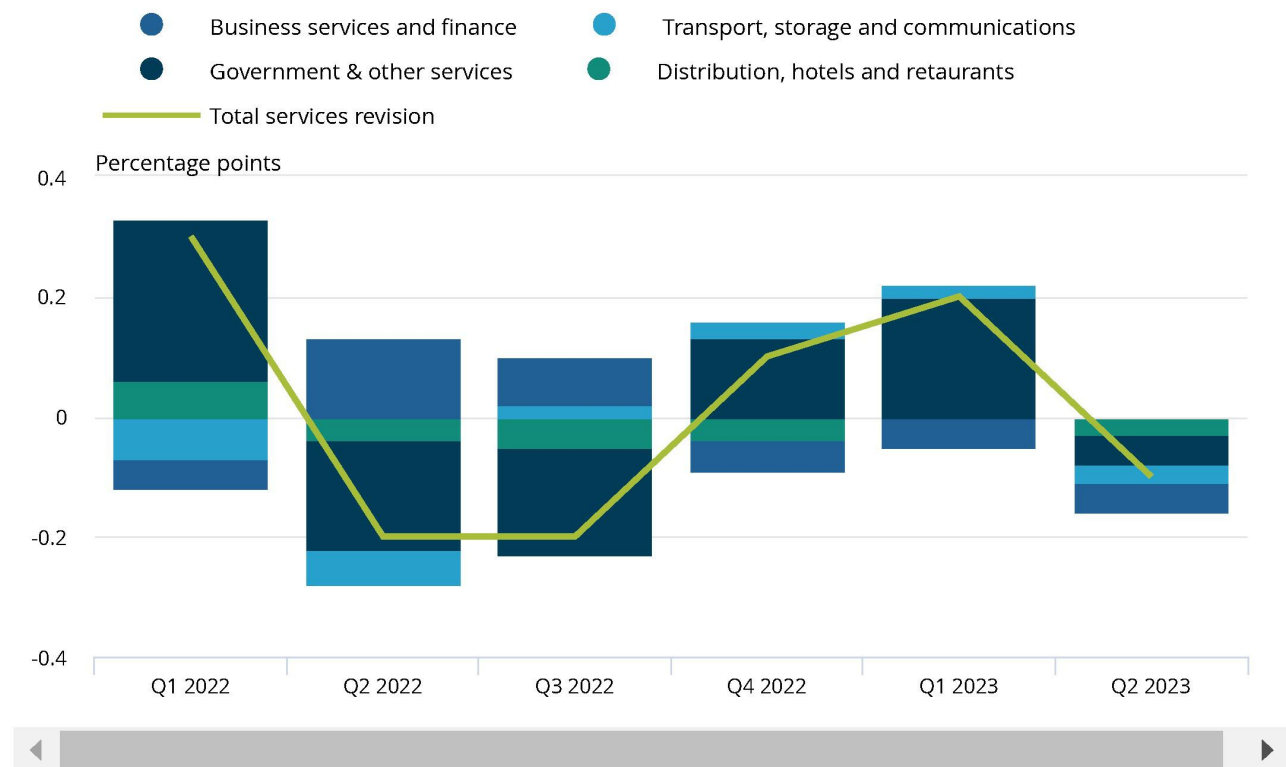
(<https://www.ons.gov.uk/economy/grossdomesticproductgdp/bulletins/quarterlynationalaccounts/apriltojune2023#expenditure>).

Business services and finances revisions are caused by deflator improvements introduced as part of Blue Book 2023. For more information, see the GDP monthly estimate sub-section within [Section 11: Measuring the data](#)

(<https://www.ons.gov.uk/economy/grossdomesticproductgdp/bulletins/quarterlynationalaccounts/apriltojune2023#measuring-the-data>). This sub-sector also sees revisions because of revised and new Value Added Tax (VAT) data, and a review of seasonal adjustment.

Figure 4: Revisions to services across 2022 and 2023 are mainly driven by the government and other services sub-sector

UK, revisions contributions to services growth, Quarter 1 (Jan to Mar) 2022 to Quarter 2 (Apr to June) 2023



Source: GDP quarterly national accounts from the Office for National Statistics

Notes:

1. Components contribution may not sum to total because of rounding.
2. Q1 refers to Quarter 1 (Jan to Mar), Q2 refers to Quarter 2 (Apr to June), Q3 refers to Quarter 3 (July to Sept) and Q4 refers to Quarter 4 (Oct to Dec).

Production

Production output increased by 1.2% in Quarter 2 2023, revised up from a first estimate increase of 0.7%. This follows unrevised growth of 0.1% in the previous quarter.

The increase in production output in the latest quarter was mainly driven by an increase of 1.9% in manufacturing. There were increases in 9 out of the 13 sub-sectors, which may reflect falling input prices

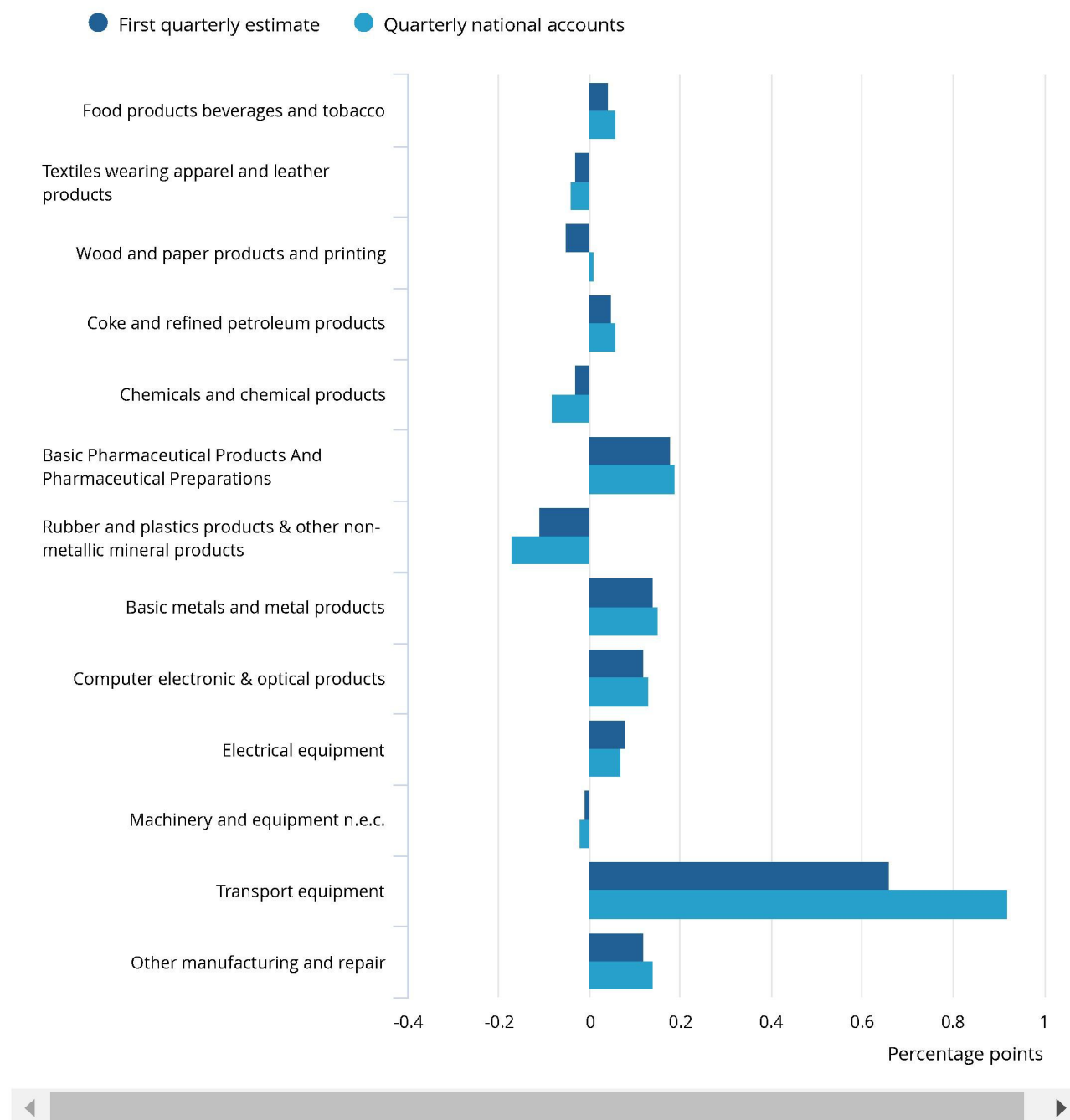
(<https://www.ons.gov.uk/economy/inflationandpriceindices/bulletins/producerpriceinflation/june2023including-services-april-to-march-2023#:~:text=Figure%202:>) across the quarter relieving some pressure on manufacturers.

The largest positive contribution was from the manufacture of transport equipment (Figure 5), in particular the manufacture of motor vehicles, trailers and semi-trailers, which performed strongly in April and June 2023. Anecdotal evidence from the Society of Motor Manufacturers and Traders (SMMT) (<https://www.smmmt.co.uk/vehicle-data/>) reported a 16.2% increase in car manufacturing in June 2023 compared with the same month a year ago.

Figure 5 shows the contributions to manufacturing growth is largely unchanged from the first estimate.

Figure 5: There have been minimal revisions to quarterly growth across the manufacturing sector in Quarter 2 (Apr to June) 2023

UK, contributions to manufacturing growth, Quarter 2 (Apr to June) 2023



Source: GDP quarterly national accounts from the Office for National Statistics

Notes:

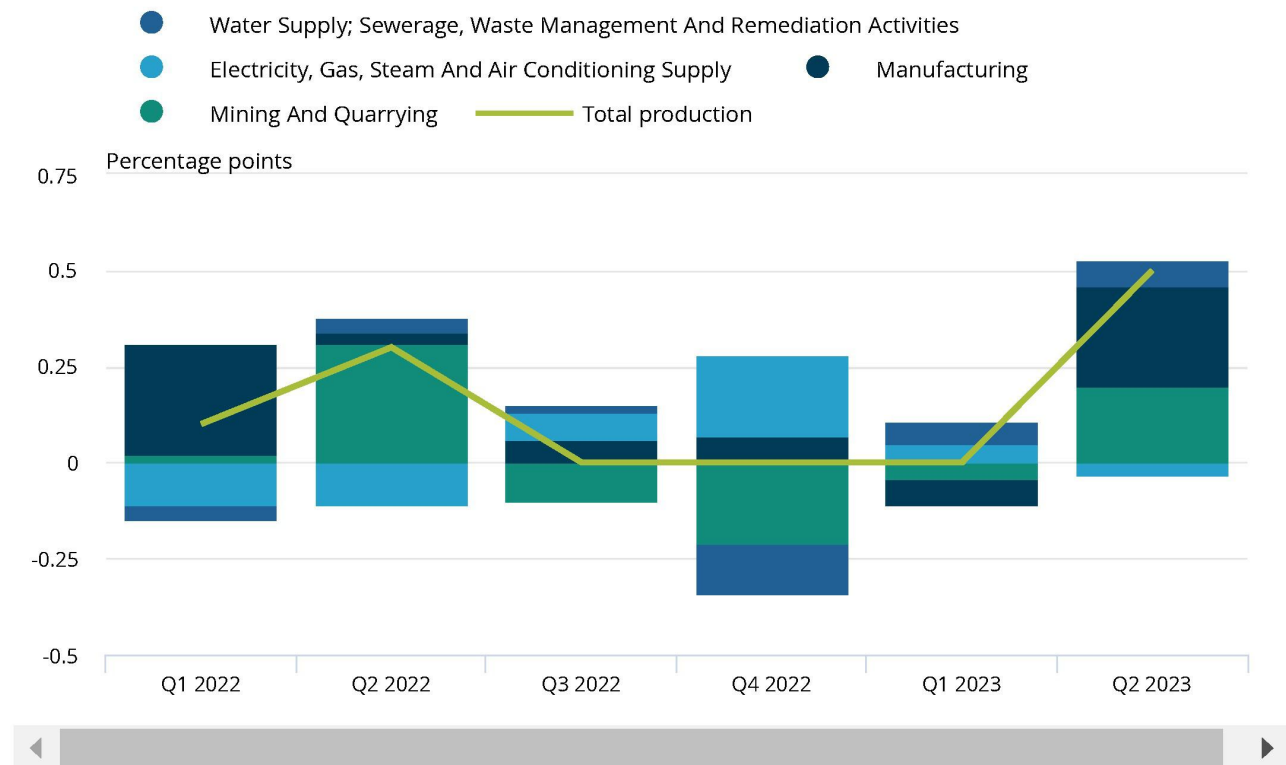
1. Components contribution may not sum to total because of rounding.

Across 2022 and 2023, the production sector sees revisions to growth mainly driven by manufacturing and the mining and quarrying sub-sectors (Figure 6). Overall, the revisions to production reflect:

- revised volume data from the Department for Energy Security and Net Zero (DESNZ) for mining and quarrying
- new VAT turnover data for Quarter 4 (Oct to Dec) 2022 and Quarter 1 (Jan to Mar) 2023, and revisions to previous quarters
- a review of seasonal adjustment models

Figure 6: Revisions to production output across 2022 and 2023 are mainly driven by manufacturing and the mining and quarrying sub-sectors

UK, revisions contributions to production growth, Quarter 1 (Jan to Mar) 2022 to Quarter 2 (Apr to June) 2023



Source: GDP quarterly national accounts from the Office for National Statistics

Notes:

1. Components contribution may not sum to total because of rounding.
2. Q1 refers to Quarter 1 (Jan to Mar), Q2 refers to Quarter 2 (Apr to June), Q3 refers to Quarter 3 (July to Sept) and Q4 refers to Quarter 4 (Oct to Dec).

Construction

Construction output rose by 0.3% in Quarter 2 2023, unrevised from the first estimate. This follows revised growth of 0.6% (previously 0.4%) in Quarter 1 2023. The growth in Quarter 2 2023 was driven by repair and maintenance, which grew by 1.8%. This growth was partially offset by a fall of 0.7% in new work.

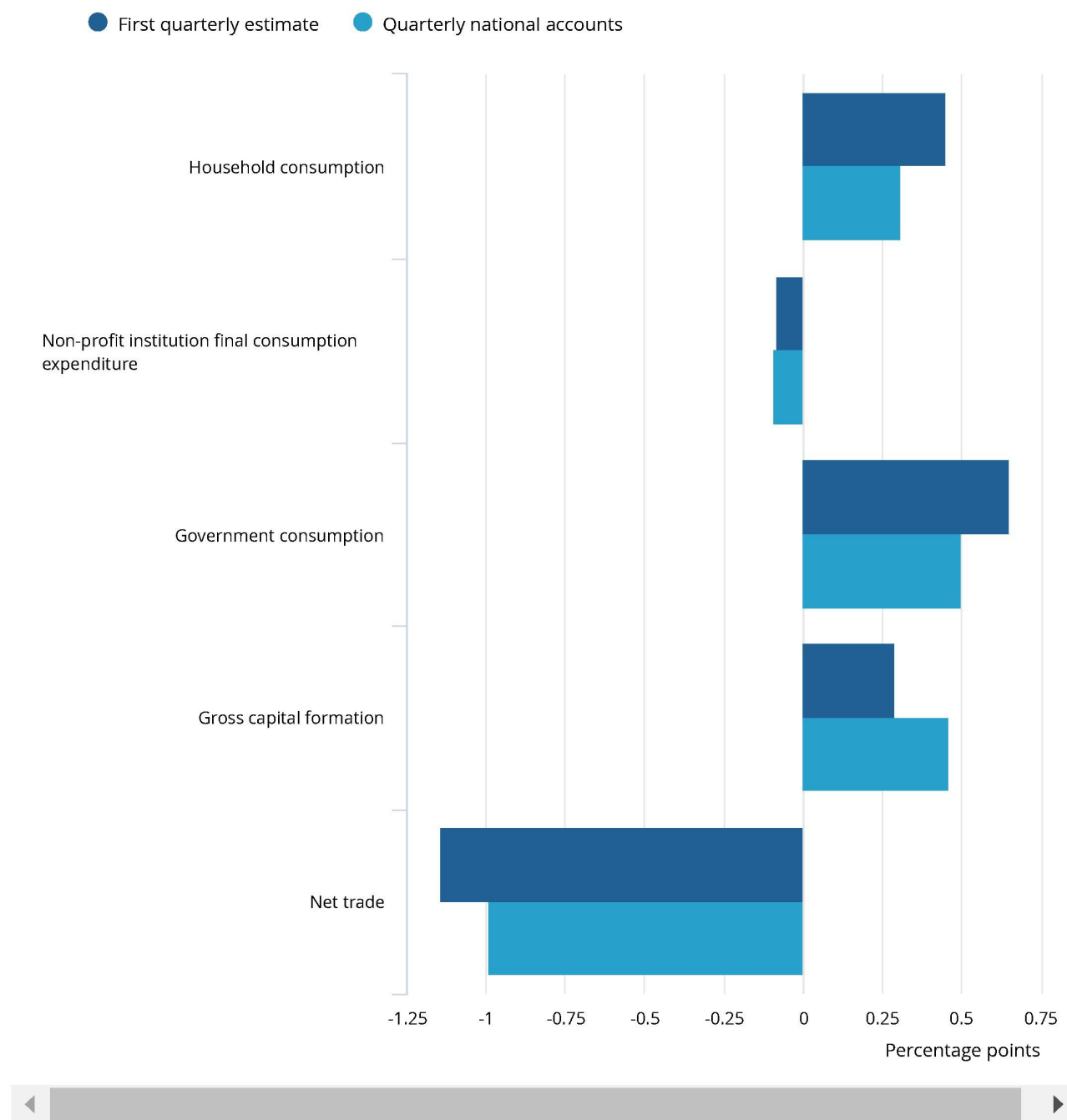
4. Expenditure

There was an increase in household consumption in Quarter 2 (Apr to June) 2023, while there was also higher government spending on the quarter. This was partially offset by a decrease in the volume of net trade in Quarter 2 2023.

Figure 7 shows the previous and latest contributions to expenditure in Quarter 2 2023. The impact of revisions on real gross domestic expenditure over this quarter have been minimal. These revisions to components are discussed in more detail.

Figure 7: There has been minimal impact of revisions on real gross domestic expenditure, although there have been some revisions to underlying components

UK, contributions by expenditure components, Quarter 2 (Apr to June) 2023



Source: GDP quarterly national accounts from the Office for National Statistics

Notes:

1. Gross capital formation will include gross fixed capital formation, plus changes in inventories and acquisitions less disposable of assets, as well as the expenditure alignment adjustment.
2. Contributions may not sum to total because of rounding.

Household consumption

There was a 0.5% increase in real household expenditure in Quarter 2 2023, revised down from a first estimate increase of 0.7%. This follows upwardly revised growth in the previous quarter of 0.7%; previously, this showed no growth. Within household consumption, the largest contributions to growth in the latest quarter were from spending on housing, water, electricity and gas, transport, and recreation and culture.

Figure 8 shows there have been notable revisions to household consumption across 2022 and 2023. These revisions include updated data on transport, health, recreation and culture, and restaurants and hotels.

Net tourism

(<https://www.ons.gov.uk/economy/nationalaccounts/satelliteaccounts/methodologies/definitionsandconventionsforukhouseholdfinalconsumptionexpenditure>) is a significant driver of the revisions in household consumption, including the revision to Quarter 1 (Jan to Mar) 2023. These revisions reflect:

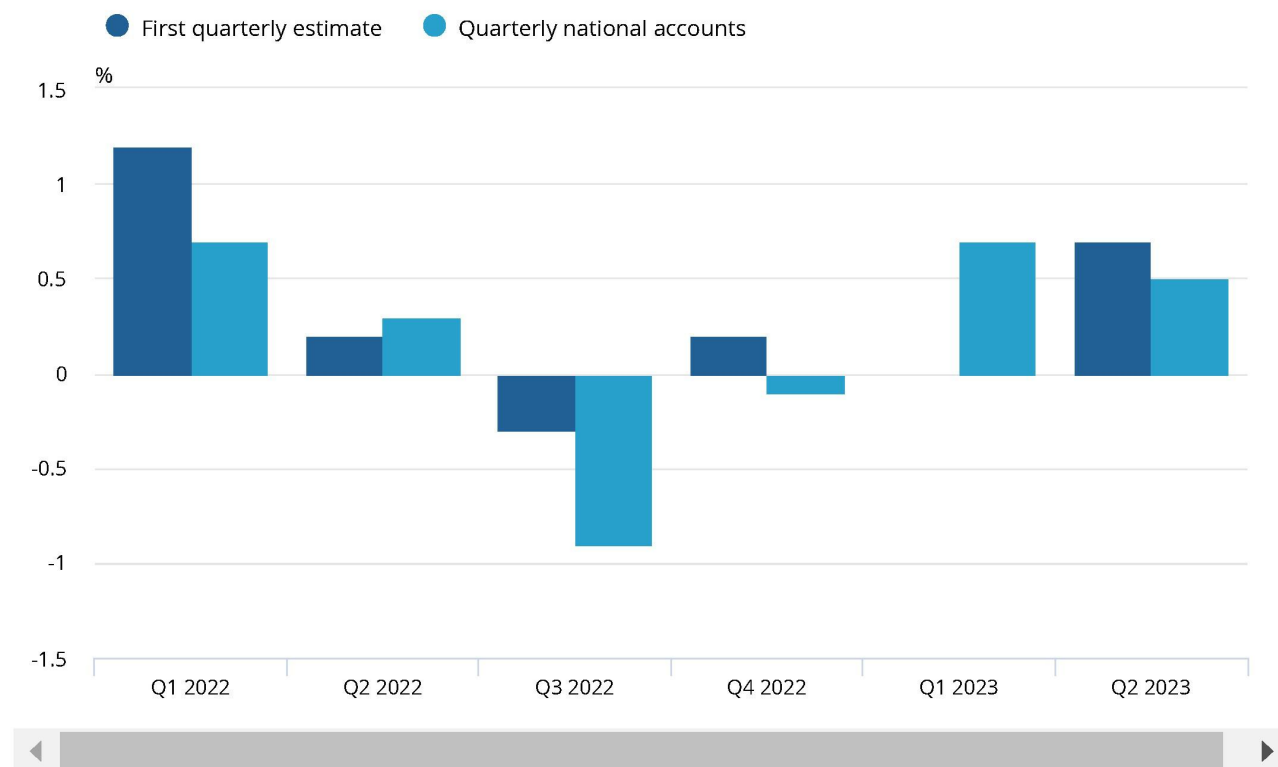
- revised and updated data from the International Passenger Survey (<https://www.ons.gov.uk/surveys/informationforhouseholdsandindividuals/householdandindividualsurveys/internationalpassengersurvey>), particularly for Quarter 4 (Oct to Dec) 2022 and Quarter 1 2023
- new Blue Book 2023 methodology introduced for measuring travel exports (<https://www.ons.gov.uk/businessindustryandtrade/internationaltrade/articles/methodologicalimprovementstoukeducationsservicesexports/2022-11-02#pink-book-2023-planned-improvements>)

- new Blue Book 2023 data deflator changes, which better reflect changing prices in travel exports and import

While household consumption sees large revisions because of net tourism, these are offset within trade, and there is therefore no impact on the GDP aggregate.

Figure 8: Household consumption growth sees revisions across 2022 and 2023, mainly as a result of revisions to net tourism

UK, quarter on previous quarter household consumption growth, Quarter 1 (Jan to Mar) 2022 to Quarter 2 (Apr to June) 2023



Source: GDP quarterly national accounts from the Office for National Statistics

Notes:

1. Q1 refers to Quarter 1 (Jan to Mar), Q2 refers to Quarter 2 (Apr to June), Q3 refers to Quarter 3 (July to Sept) and Q4 refers to Quarter 4 (Oct to Dec).

Consumption of government goods and services

Real government consumption expenditure increased by 2.5% in Quarter 2 2023, revised down from a first estimate increase of 3.1%. Growth in the latest quarter is mainly reflecting higher spending on public administration and defence. There was also pick-up in the final consumption expenditure of health, which saw higher than normal growth for this time of year, despite industrial action.

Nominal government consumption expenditure increased by 5.9% in Quarter 2 2023, driven by increased spending on health, and on public administration and defence. The increase in health spending is primarily reflected in higher wages and salaries, reflecting the NHS pay settlement. For further details, please see GOV.UK's press release, [Government and health unions agree pay deal paving way for an end to strike action](https://www.gov.uk/government/news/government-and-health-unions-agree-pay-deal-paving-way-for-an-end-to-strike-action) (<https://www.gov.uk/government/news/government-and-health-unions-agree-pay-deal-paving-way-for-an-end-to-strike-action>). However, these expenditure data are based on early outturn data and budgetary plans, and may be subject to revision when firmer data become available.

Over the course of 2022 and 2023, government consumption sees revisions mainly as a result of:

- new Blue Book 2023 [methodology](https://www.ons.gov.uk/economy/grossdomesticproductgdp/methodologies/improvementstononmarketadultsocialcareoutputinthenationalaccounts#:~:text=1.-,Main%20points,activity%20measure%20for%20earlier%20years.) introduced to better measure adult social care (<https://www.ons.gov.uk/economy/grossdomesticproductgdp/methodologies/improvementstononmarketadultsocialcareoutputinthenationalaccounts#:~:text=1.-,Main%20points,activity%20measure%20for%20earlier%20years.>)
- updated data for a number of components, including our annual health benchmark data, where we capture more detailed information on services delivered by the NHS
- updated estimates of final consumption expenditure of education where pupil absenteeism from Quarter 2 2020 had been overestimated (which had resulted in lower estimates of school attendance); figures have been updated from Quarter 1 2022 onwards, and we will update estimates for Quarter 2 2020 to Quarter 4 2021 when the revision policy next allows, as a result, there is a small step change between Quarter 4 2021 and Quarter 1 2022

Gross capital formation

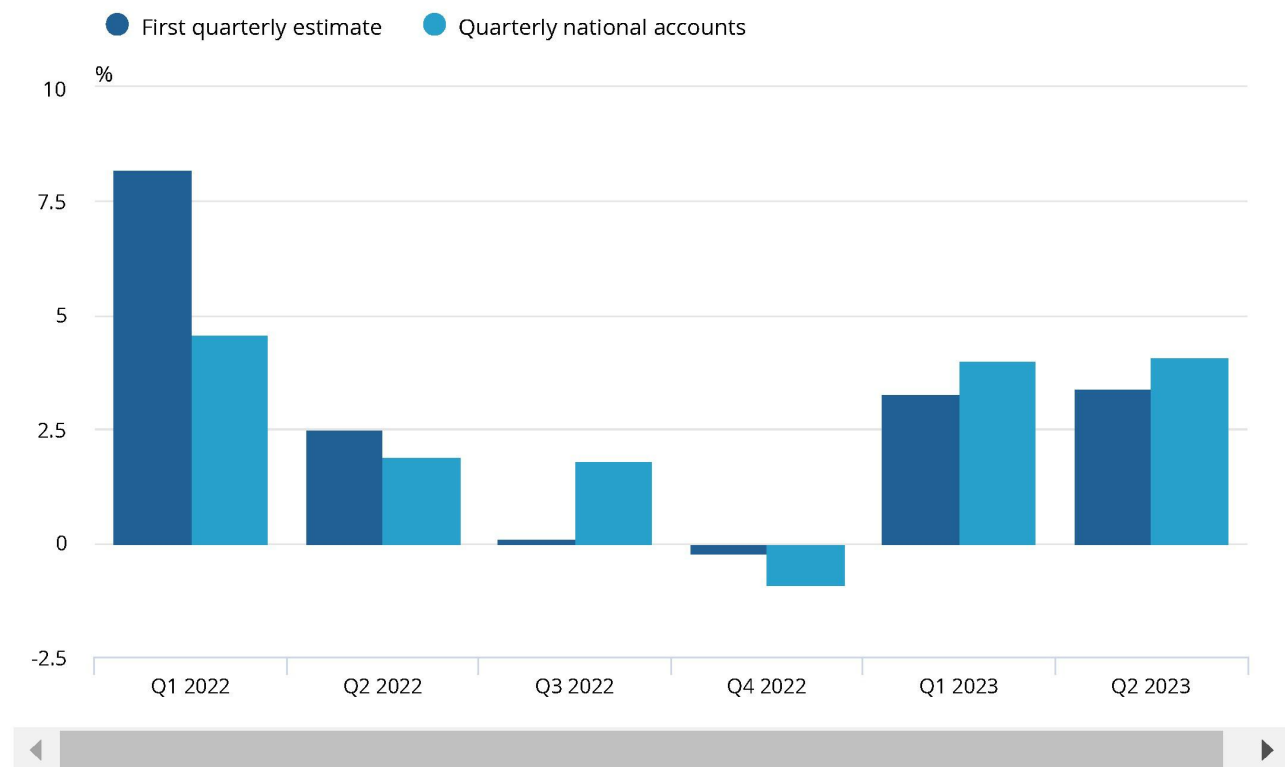
Gross fixed capital formation (GFCF) is now estimated to have increased by 0.8% in the latest quarter, revised up from a first estimate of no growth. This follows a rise of 2.5% in Quarter 1 2023.

There was a 4.1% increase in business investment on the quarter, revised up from a first estimate increase of 3.4%. Growth in business investment was driven by increased transport investment, in particular on aircraft, which saw an increase in imports from the United States in April 2023 as shown by our [UK trade: April 2023 bulletin](https://www.ons.gov.uk/economy/nationalaccounts/balanceofpayments/bulletins/uktrade/april2023) (<https://www.ons.gov.uk/economy/nationalaccounts/balanceofpayments/bulletins/uktrade/april2023>). Elsewhere, investment in information and communication technology (ICT) equipment and other machinery equipment declined on the quarter, following strong growth in Quarter 1 2023. This brought investment forward in response to the [super-deduction allowance](https://www.gov.uk/guidance/super-deduction) (<https://www.gov.uk/guidance/super-deduction>) expiring on 31 March 2023.

Figure 9 shows that there have been some revisions to the path to business investment, particularly in 2022. This reflects revised aircraft data, new Blue Book 2023 methodology with the introduction of the [computer hardware deflator](https://www.ons.gov.uk/economy/grossdomesticproductgdp/methodologies/impactofbluebook2023changesoncurrentpriceandvolumeestimatesofgrossdomesticproduct) (<https://www.ons.gov.uk/economy/grossdomesticproductgdp/methodologies/impactofbluebook2023changesoncurrentpriceandvolumeestimatesofgrossdomesticproduct>), as well as updates to the seasonal adjustment model.

Figure 9: Business investment sees revisions to growth across 2022, with little revision in 2023

UK, quarter on previous quarter business investment growth, Quarter 1 (Jan to Mar) 2022 to Quarter 2 (Apr to June) 2023



Source: GDP quarterly national accounts from the Office for National Statistics

Notes:

1. Q1 refers to Quarter 1 (Jan to Mar), Q2 refers to Quarter 2 (Apr to June), Q3 refers to Quarter 3 (July to Sept) and Q4 refers to Quarter 4 (Oct to Dec).

Excluding the alignment and balancing adjustments, estimates show that inventories fell by £3.2 billion in Quarter 2 2023, revised down from a fall of £2.0 billion in the first estimate.

Table 2: Change in inventories, including and excluding balancing and alignment adjustments**UK, Quarter 1 (Jan to Mar) 2022 to Quarter 2 (Apr to June) 2023**

		Change in Inventories	Of which alignment	Of which balancing	Change in Inventories excluding alignment and balancing
Q1 2022	Current price	9891	-3137	500	12528
Q1 2022	Chained volume measure	9177	-2898	-500	12575
Q2 2022	Current price	11807	3240	700	7867
Q2 2022	Chained volume measure	8155	2984	-600	5771
Q3 2022	Current price	1768	-2192	-250	4210
Q3 2022	Chained volume measure	-2928	-1947	-100	-881
Q4 2022	Current price	2436	2089	200	147
Q4 2022	Chained volume measure	2781	1861	1400	-480
Q1 2023	Current price	-479	1172	-800	-851
Q1 2023	Chained volume measure	-742	1025		-1767
Q2 2023	Current price	-1521	753	-300	-1974
Q2 2023	Chained volume measure	-2024	642	500	-3166

Source: GDP quarterly national accounts from the Office for National Statistics

Notes

1. Data are in £ millions.
2. Q1 refers to Quarter 1 (Jan to Mar), Q2 refers to Quarter 2 (Apr to June), Q3 refers to Quarter 3 (July to Sept) and Q4 refers to Quarter 4 (Oct to Dec).
3. Alignment adjustments typically have a target limit of plus or minus £3,000 million on an quarter. However, in periods where the data sources are particularly difficult to balance,

Net trade

HM Revenue and Customs (HMRC) implemented a data collection change, affecting data on goods exports from Great Britain to the EU in January 2021, and data on goods imports from the EU to Great Britain in January 2022. For more information, see [HMRC's Methodology changes to trade in goods statistics from March 2022 article](https://www.uktradeinfo.com/news/methodology-changes-to-trade-in-goods-statistics-from-march-2022/) (<https://www.uktradeinfo.com/news/methodology-changes-to-trade-in-goods-statistics-from-march-2022/>).

We have applied adjustments to our estimates of goods imports from the EU for 2021 to reflect this data collection change. This brought imports and exports statistics onto a like-for-like basis in 2021, as detailed in our [Trade in goods: adjustments to 2021 EU imports estimates, by chapter dataset](https://www.ons.gov.uk/businessindustryandtrade/internationaltrade/datasets/tradeingoodsadjustmentsto2021euimportsestimatesbychapter) (<https://www.ons.gov.uk/businessindustryandtrade/internationaltrade/datasets/tradeingoodsadjustmentsto2021euimportsestimatesbychapter>). The full data time series for goods imports from and exports to the EU contains a discontinuity from January 2021, resulting from the move from Intrastat to customs declarations. More information is available in our [Impact of trade in goods data collection changes on UK trade statistics: adjustments to 2021 EU imports estimates article](https://www.ons.gov.uk/economy/nationalaccounts/balanceofpayments/articles/impactoftradeingoodsdatacollectionchangesonuktradestatistics/adjustmentsto2021euimportsestimates) (<https://www.ons.gov.uk/economy/nationalaccounts/balanceofpayments/articles/impactoftradeingoodsdatacollectionchangesonuktradestatistics/adjustmentsto2021euimportsestimates>). We are continuing to work with HMRC to consider possible options to account for this discontinuity.

Separately, in 2021, the use of Staged Customs Controls (SCC) allowed customs declarations to be reported up to 175 days after the date of import for imports of non-controlled goods from the EU to Great Britain. The [UK government introduced full customs controls in January 2022](https://www.gov.uk/government/news/less-than-a-month-until-full-customs-controls-are-introduced) (<https://www.gov.uk/government/news/less-than-a-month-until-full-customs-controls-are-introduced>), while July 2022 marked the first full month of data where delayed customs declarations submitted under SCC could not be included. Temporary arrangements still apply for imports of goods from Ireland to Great Britain.

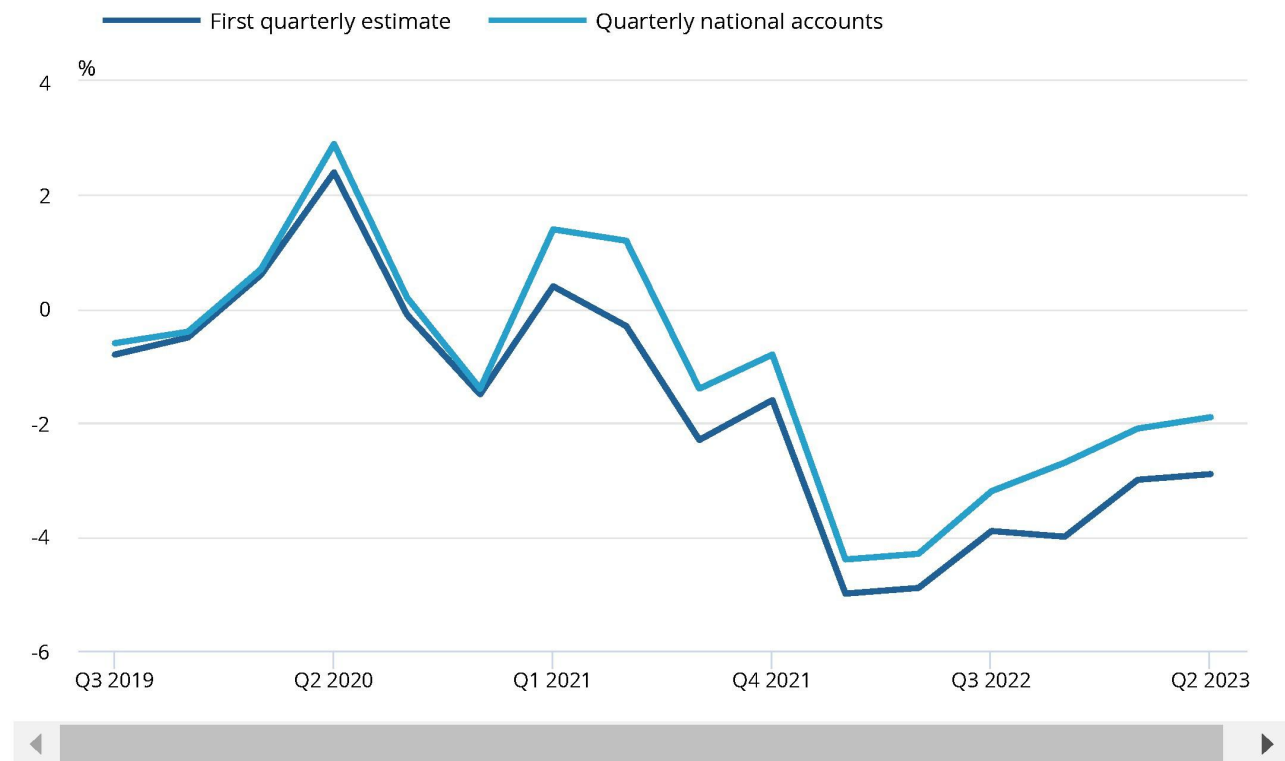
In our [Impact of trade in goods data collection changes on UK trade statistics: further update on Staged Customs Controls article](#)

(<https://www.ons.gov.uk/economy/nationalaccounts/balanceofpayments/articles/impactoftradeingoodsdatacollectionchangesonuktradestatistics/furtherupdateonstagedcustomscontrols>) published on 3 July 2023, we presented analysis on the impact of SCC on trade in goods data for imports from the EU to Great Britain in 2022. To account for the impact of SCC, we have now applied an adjustment to our estimates of goods imports from the EU for the period January to June 2022, which has contributed to downward revisions of trade imports for this period. Revised estimates will also be published in our [UK trade: August 2023 bulletin](#) (<https://www.ons.gov.uk/releases/uktradeaugust2023>) on 12 October 2023. We will also be publishing an [Impact of trade in goods data collection changes on UK trade statistics: adjustments to 2022 EU imports estimates article](#) (<https://www.ons.gov.uk/releases/impactoftradeingoodsdatacollectionchangesonuktradestatisticsadjustmentsto2022euimportsestimates>), providing a detailed breakdown of the impact of these adjustments.

The UK's trade deficit for goods and services was 1.5% of nominal gross domestic product (GDP) in Quarter 2 2023, revised up from a first estimate deficit of 2.4%. However, there have been large movements in non-monetary gold over the last quarter, which can be volatile. Excluding non-monetary gold, the trade deficit was 1.9% of nominal GDP in Quarter 2 2023, revised up from a first estimate deficit of 2.9% (Figure 10).

Figure 10: Excluding non-monetary gold, the UK had a trade deficit of 1.9% of nominal GDP in Quarter 2 (Apr to June) 2023

UK, trade balance as a percentage of nominal GDP, excluding non-monetary gold, Quarter 3 (July to Sept) 2019 to Quarter 2 (Apr to June) 2023



Source: GDP quarterly national accounts from the Office for National Statistics

Notes:

1. Q1 refers to Quarter 1 (Jan to Mar), Q2 refers to Quarter 2 (Apr to June), Q3 refers to Quarter 3 (July to Sept) and Q4 refers to Quarter 4 (Oct to Dec).

2. Non-monetary gold

(<https://www.ons.gov.uk/economy/nationalaccounts/uksectoraccounts/articles/nationalaccountsarticles/abriefexplanationofnonmonetarygoldinnationalaccounts>) (NMG) is an erratic series and so it can be useful to consider this excluded from the trade balance.

Export volumes fell by 0.9% in the latest quarter, revised up from a first estimate fall of 2.5%. The fall in the latest quarter was driven by an unrevised fall of 0.8% in goods exports, as well as a revised 1.0% fall in services exports (previously estimated as a 4.0% fall).

The fall in goods exports was mainly driven by large movements in non-monetary gold.

However, this data series also appears within gross capital formation (GCF) as valuables, so the effect is GDP neutral. Revisions to goods exports mainly reflects new Blue Book 2023 methodology to improve measurement of globalisation. Further information on this improvement is discussed in our [Globalisation in the context of the UK National Accounts: Blue Book 2023 article](https://www.ons.gov.uk/economy/grossdomesticproductgdp/articles/globalisationinthecontextoftheuknationalaccounts/bluebook2023#:~:text=Improvements%20for%20Blue%20Book%202023,Accounts%20and%20balance%20of%20payments.)

(<https://www.ons.gov.uk/economy/grossdomesticproductgdp/articles/globalisationinthecontextoftheuknationalaccounts/bluebook2023#:~:text=Improvements%20for%20Blue%20Book%202023,Accounts%20and%20balance%20of%20payments.>).

The fall in services exports was driven mainly by other business services, with decreases in advertising and market research, management consulting, and other trade in services.

Services exports see upward revisions throughout 2022 and 2023, mainly reflecting updated estimates of transportation and travel services. This is where we have new information from the [International Passenger Survey](https://www.ons.gov.uk/surveys/informationforhouseholdsandindividuals/householdandindividualsurveys/internationalpassengersurvey)

(<https://www.ons.gov.uk/surveys/informationforhouseholdsandindividuals/householdandindividualsurveys/internationalpassengersurvey>), as well as new Blue Book 2023 data deflator changes, which better reflect changing prices in travel exports and imports.

Import volumes increased by a revised 2.2% in the latest quarter (previously estimated as a 1.0% increase). Growth in the latest quarter was driven by a 1.5% increase in goods imports (revised down from a first estimate increase of 1.8%) and 3.7% increase in services imports (revised up from a first estimate fall of 0.4%).

Revisions to goods imports reflect adjustments made as discussed in our [Staged Customs Controls article for Quarter 1 and 2 2022](https://www.ons.gov.uk/economy/nationalaccounts/balanceofpayments/articles/impactoftradeingoodsdatacollectionchangesonuktradestatistics/furtherupdateonstagedcustomscontrols)

(<https://www.ons.gov.uk/economy/nationalaccounts/balanceofpayments/articles/impactoftradeingoodsdatacollectionchangesonuktradestatistics/furtherupdateonstagedcustomscontrols>), as well as improvements to the measurement of globalisation.

Revisions to services imports reflect revised [International trade in services](https://www.ons.gov.uk/businessindustryandtrade/internationaltrade/methodologies/internationaltradeinservicesqmi)

(<https://www.ons.gov.uk/businessindustryandtrade/internationaltrade/methodologies/internationaltradeinservicesqmi>) data, with new information on management consulting and

advertising, market research and public opinion polling services. Services imports are also impacted by new Blue Book 2023 methodology for better estimating travel services.

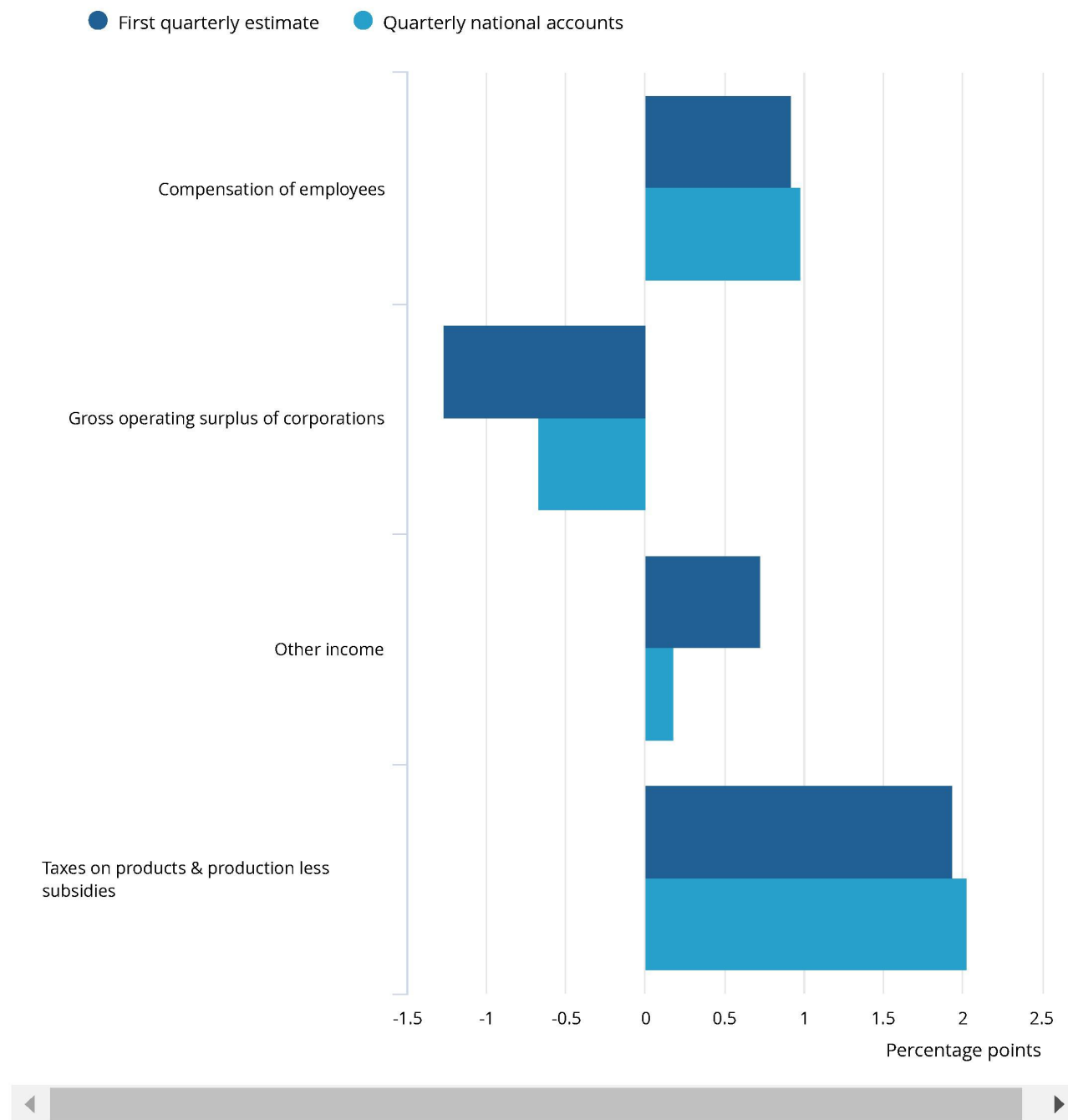
5. Income

Nominal gross domestic product (GDP) rose by 2.5% in Quarter 2 (Apr to June) 2023, revised up from a previous estimate of 2.3%. The quarterly rise was driven by growth in compensation of employees and taxes less subsidies.

Figure 11 shows the previous and latest contributions to nominal GDP for Quarter 2 2023. The impact of revisions on nominal gross domestic income over this period has been minimal, although there have been larger revisions to income components.

Figure 11: There has been minimal impact of revisions on nominal gross domestic income, although there have been some revisions to underlying components

UK, contributions to nominal GDP, Quarter 2 (Apr to June) 2023



Source: GDP quarterly national accounts from the Office for National Statistics

Notes:

1. Components contributions may not sum to total due to rounding

2. Please note, the alignment adjustment is included in the Gross Operating Surplus of nominal GDP.

Compensation of employees increased by 2.0% in Quarter 2 2023 (previously estimated to be 1.9%), driven by a rise in wages and salaries of 2.2%, and a 1.0% in employers' social contributions. Early estimates suggest that the strong increase in wages and salaries reflects rises in public sector earnings, particularly hospital wages and salaries, partly reflecting the non-consolidated payments in the NHS.

Early estimates show that taxes less subsidies increased by 23.7% in Quarter 2 2023, driven by a large decrease in subsidies because of the lower payments as part of the Energy Price Guarantee scheme and the Energy Bill Relief Scheme. In October 2022, the Office for National Statistics (ONS) announced that the Energy Price Guarantee scheme had been classified as a subsidy on products from central government to energy suppliers in the non-financial corporations sector in the UK. For more information, see our [Energy Price Guarantee classification review](https://www.ons.gov.uk/news/statementsandletters/classificationreviewoftheenergypriceguaranteeandenergybillreliefscheme)

(<https://www.ons.gov.uk/news/statementsandletters/classificationreviewoftheenergypriceguaranteeandenergybillreliefscheme>).

The equivalent support scheme for businesses and non-domestic customers was announced as the Energy Bill Relief Scheme. This scheme provided a discount on gas and electricity unit prices, and the UK government will compensate the suppliers for this reduction. In October 2022, the ONS announced that the scheme had also been classified as a subsidy on products from central government to energy suppliers in the non-financial corporations sector in the UK. For more information, see our [Energy Bill Relief Scheme classification review](https://www.ons.gov.uk/news/statementsandletters/classificationreviewoftheenergypriceguaranteeandenergybillreliefscheme)

(<https://www.ons.gov.uk/news/statementsandletters/classificationreviewoftheenergypriceguaranteeandenergybillreliefscheme>). Data for Quarter 2 2023 are an initial indicative estimate, which will be revised over the coming months as firmer data become available.

Total gross operating surplus (GOS) of corporations excluding the alignment adjustment fell by 4.5% (Table 3), reflecting lower subsidies paid out as part of the Energy Price Guarantee scheme. There continues to be increased uncertainty around the full impacts of this scheme,

which has been reflected in a larger than normal alignment adjustment in Quarter 1 (Jan to Mar) 2023 and Quarter 2 2023 (Table 3). More detail can be found in [Section 11: Measuring the data](#)

(<https://www.ons.gov.uk/economy/grossdomesticproductgdp/bulletins/quarterlynationalaccounts/apriltojune2023#measuring-the-data>). Data content for this component is low at this stage in the [GDP publication model](#)

(<https://www.ons.gov.uk/economy/grossdomesticproductgdp/articles/introducinganewpublicationmodelforgdp/2018-04-27#impact-on-data>).

Table 3: Gross operating surplus of corporations, including and excluding alignment adjustments

UK, Quarter 1 (Jan to Mar) 2022 to Quarter 2 (Apr to June) 2023

	Gross operating surplus of corporations	Of which alignment	Gross operating surplus of corporations excluding alignment	Gross operating surplus of corporations excluding alignment
				Quarter-on-quarter growth
Q1 2022	133381	-1199	134580	3.3
Q2 2022	138957	1542	137415	2.1
Q3 2022	136800	-1150	137950	0.4
Q4 2022	150285	807	149478	8.4
Q1 2023	161116	5878	155238	3.9
Q2 2023	156619	8409	148210	-4.5

Source: GDP quarterly national accounts from the Office for National Statistics

Notes

1. Data are in £ millions unless labelled otherwise. Growth rates are percentage movement
2. Q1 refers to Quarter 1 (Jan to Mar), Q2 refers to Quarter 2 (Apr to June), Q3 refers to Quarter 3 (July to Sept) and Q4 refers to Quarter 4 (Oct to Dec).
3. Alignment adjustments typically have a target limit of plus or minus £3,000 million on an quarter. However, in periods where the data sources are particularly difficult to balance, larger alignment adjustments are sometimes needed.



6. Revisions to GDP

In line with the [National Accounts Revisions Policy](#)

(<https://www.ons.gov.uk/methodology/methodologytopicsandstatisticalconcepts/revisions/revisionspoliciesforeconomicstatistics/nationalaccountsrevisionspolicyupdateddecember2017>), all time periods in the dataset are open for revision.

Table 4 shows the revisions to quarter-on-quarter growth for the components of GDP.

Table 4: Revisions to quarter-on-quarter growth for components of GDP**Quarter 1 (Jan to Mar) 2022 to Quarter 2 (Apr to June) 2023**

	Percentage points					
	Q1 2022	Q2 2022	Q3 2022	Q4 2022	Q1 2023	Q2 2023
Average GDP in chained volume measures	0.0	0.0	0.0	0.0	0.2	0.0
Output						
Production	0.1	0.3	0.0	0.0	0.0	0.5
Construction	0.2	0.0	0.0	0.2	0.2	0.0
Services	0.3	-0.2	-0.2	0.1	0.2	-0.1
Expenditure						
Households	-0.5	0.1	-0.6	-0.3	0.7	-0.2
Non-profit institutions serving households	-0.1	-0.2	0.1	0.1	0.5	-0.6
General government	1.2	-0.3	-0.1	-1.2	0.6	-0.6
Gross fixed capital formation	-2.9	2.4	0.1	-0.3	0.1	0.8
Total exports	-0.5	0.5	0.6	1.6	0.5	1.6
Total imports	1.1	1.4	-0.3	0.7	2.0	1.2
Average GDP in current prices	-0.3	0.2	0.0	0.2	0.9	0.2
Income						

Compensation of employees	0.4	0.2	0.1	0.3	0.1	0.1
Gross operating surplus of corporations	1.0	1.4	-1.3	1.4	2.1	2.7
Other income	0.3	-0.3	0.5	0.0	1.0	-2.9
Taxes on products & production less subsidies	-0.7	-0.4	0.6	-1.5	2.1	1.5

Source: GDP quarterly national accounts from the Office for National Statistics

Notes

1. Q1 refers to Quarter 1 (Jan to Mar) Q2 refers to Quarter 2 (Apr to June) Q3 refers to Quarter 3 (July to Sept) and Q4 refers to Quarter 4 (Oct to Dec).
2. Revisions are between the GDP first quarterly estimate published 11 August 2023 and

7. Quarterly sector accounts

Estimates published for the first time today, 29 September 2023, are consistent with several methodological improvements to the institutional sector accounts introduced as part of our annual improvement programme; we discussed indicative impacts of changes to the main financial and non-financial accounts estimates in our [Detailed assessment of changes to institutional sector accounts: 1997 to 2021](https://www.ons.gov.uk/economy/nationalaccounts/uksectoraccounts/articles/detailedassessmentofchangestoinstitutionalsectoraccounts/1997to2021) article (<https://www.ons.gov.uk/economy/nationalaccounts/uksectoraccounts/articles/detailedassessmentofchangestoinstitutionalsectoraccounts/1997to2021>).

Household saving ratio

The household saving ratio is 9.1% in Quarter 2 (Apr to June) 2023, up from 7.9% in Quarter 1 (Jan to Mar) 2023. This upward movement was driven by a rise in social benefits other than transfers in kind of £10.2 billion, together with increased wages and salaries of £6.0 billion.

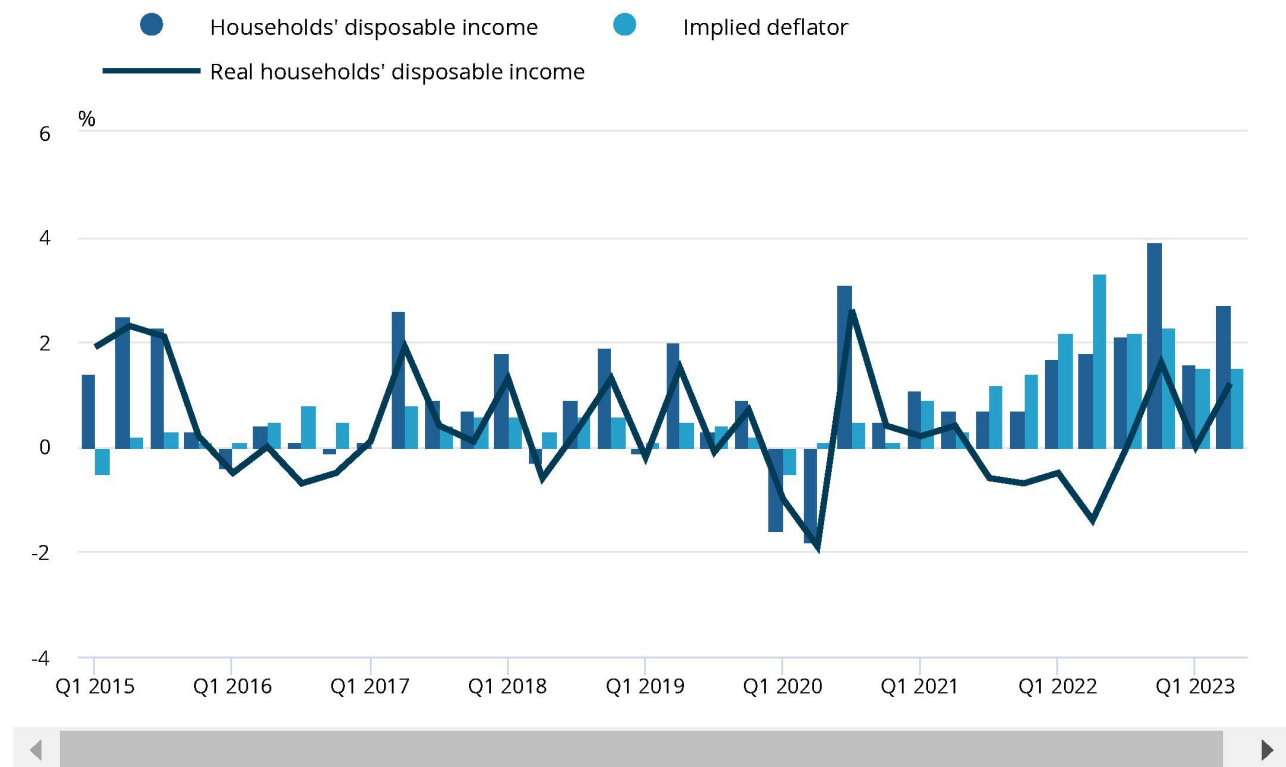
Social benefits was itself driven by increased benefits in line with inflation. Wages and salaries' biggest contributor to growth was the increases in public sector pay. This was partially offset by households' expenditure, which increased by 2.0% in the latest quarter, slower growth than in Quarter 1 2023 where growth was 2.3%.

Real households' disposable income (seasonally adjusted)

Real households' disposable income (RHDI) grew by 1.2% following no change in Quarter 1 (Jan to Mar) 2023. Within RHDI, nominal gross disposable income saw growth at 2.7% driven by increased income as described in the previous section on the households saving ratio. This was offset by growth in the implied deflator of 1.5% as households experienced price increases in several spending categories, including restaurants and hotels, food, and transport.

Figure 12: Real households disposable income grew by 1.2% in Quarter 2 (Apr to June) 2023, from flat growth of 0.0% in the previous quarter

Real household disposable income, seasonally adjusted, Quarter 1 (Jan to Mar) 2015 to Quarter 2 (Apr to June) 2023



Source: Quarterly sector accounts from the Office for National Statistics

Non-financial account net lending and borrowing (seasonally adjusted)

The UK's borrowing position with the rest of the world as a percentage of gross domestic product (GDP) increased to 3.9% in Quarter 2 2023 compared with 2.4% of GDP in Quarter 1 2023.

Financial corporations increased their net lending position to 2.8% of GDP, from 2.3% of GDP in Quarter 1 2023. This was driven by a rise in other capital transfers receivable of £5.6 billion, together with a rise in net property income of £3.1 billion, driven by increased net interest at £5.8 billion, partially offset by an increase in other investment income payable on pension entitlements of £3.4 billion.

Non-financial corporations decreased their net lending to 0.4% of GDP in Quarter 2 2023, from 2.8% of GDP in Quarter 1 2023. Within non-financial corporations, private non-financial corporations (PNFCs) had a net lending position of £2.3 billion, down from £17.4 billion in the previous quarter. This decrease was driven by a £9.7 billion decrease in net reinvested income on foreign direct investment driven by falling dividends. Gross operating surplus also decreased by £3.0 billion as a result of updated source data and methodology changes.

Households increased their net lending position to 2.4% of GDP in Quarter 2 2023 compared with 1.5% of GDP in Quarter 1 2023. This was driven by greater increases in income than expenditure as described in the previous section on the saving ratio.

General government increased net borrowing to 7.3% of GDP in Quarter 2 2023, from 7.1% of GDP in Quarter 1 2023. Within general government, central government increased net borrowing by £5.3 billion. This increase was driven by a decrease in net social contributions of £9.9 billion together with an increase in final consumption expenditure of £7.3 billion, partially offset by rises in taxes on production and imports less subsidies of £14 billion.

Financial account net lending and borrowing (not seasonally adjusted)

Households saw an increase in their net lending as a percentage of GDP in the latest quarter at 3.0%, from 1.4% in Quarter 1 2023. Within their financial account, households saw increases in deposits with UK monetary financial institutions of £16.1 billion together with a rise in equity and investment funds shares and units of £3.0 billion, partially offset by decreases in net loans. Households continue to have negative net secured lending of negative £1.8 billion with the previous quarter at negative £4.9 billion. This is caused by household repayments outstripping new lending, driven by lending from banks and building societies.

Financial corporations increased their net lending as a percentage of GDP to 2.3% in the latest quarter, following lending of 0.2% in Quarter 1 2023. This was driven by a rise in equity and investment fund shares and units of £72.7 billion and a rise in derivatives and employee stock options of £16.2 billion. This was partially offset by a fall in net currency and deposits of £66.3 billion.

Non-financial corporations switched to a net lending as a percentage of GDP of 1.7% in the latest quarter, following net borrowing of 0.2% in Quarter 1 2023. Within this sector, private non-financial corporations (PNFCs) switched to net lending as a percentage of GDP of 1.5% following borrowing of 0.2% in Quarter 2 2023. This was driven by increased currency and deposits of £17.4 billion together with increased net loans at £14.2 billion, partially offset by fall in net equity and investment fund shares and units of £27.5 billion.

General government increased their net borrowing as a percentage of GDP to 9.7% in the latest quarter, from 2.7% in Quarter 1 2023. This rise was driven by a fall in net debt securities of £67.4 billion, offset by increased deposits at £21.4 billion.

8. International comparisons

Gross Domestic Product (GDP)

Table 5: Real GDP growth for the G7 economies

Percentage change, quarter on quarter and annual growth, real gross domestic product (GDP) for 2021 to 2023

Country	Quarter on previous quarter (%)						Quarter on quarter growth (%), Q2 2023 compared to prepandemic Q4 2019	Annual growth (%)	
	Q1 2022	Q2 2022	Q3 2022	Q4 2022	Q1 2023	Q2 2023	Q2 2023	2021	2022
Canada	0.6	0.9	0.6	0.0	0.6	0.0	3.5	5.0	3.4
France	-0.1	0.4	0.3	0.1	0.0	0.5	1.7	6.4	2.5
Germany	1.0	-0.1	0.4	-0.4	-0.1	0.0	0.2	3.2	1.8
Italy	0.1	1.2	0.3	-0.2	0.6	-0.4	2.1	8.3	3.7
Japan	-0.6	1.3	-0.3	0.1	0.8	1.2	3.0	2.2	1.0
United Kingdom	0.5	0.1	-0.1	0.1	0.3	0.2	1.8	8.7	4.3
United States	-0.4	-0.1	0.8	0.6	0.5	0.5	6.1	5.9	2.1

Source: GDP quarterly national accounts from the Office for National Statistics, Organisation for Economic Co-operation and Development, and Italian National Institute of Statistics

Notes

1. Q1 refers to Quarter 1 (Jan to Mar), Q2 refers to Quarter 2 (Apr to June), Q3 refers to Quarter 3 (July to Sept) and Q4 refers to Quarter 4 (Oct to Dec).
2. The Group of Seven (G7) is an intergovernmental organisation, which consists of the United States, UK, France, Germany, Italy, Canada and Japan.
3. Annual growths for Italy have been calculated using the annual national accounts data from the Istat website, retrieved on 28 September 2023. All other data are accessed and

retrieved from the OECD website on 28 September 2023, where revision policies for published estimates can differ between countries.

9. GDP quarterly national accounts data

GDP – data tables

(<https://www.ons.gov.uk/economy/grossdomesticproductgdp/datasets/uksecondestimateofgdpdatatables>)

Dataset | Released 29 September 2023

Annual and quarterly data for UK gross domestic product (GDP) estimates, in chained volume measures and current market prices.

GDP in chained volume measures – real-time database (ABMI)

(<https://www.ons.gov.uk/economy/grossdomesticproductgdp/datasets/realtimedatabaseforukgdpabmi>)

Dataset | Released 29 September 2023

Quarterly levels for UK gross domestic product (GDP), in chained volume measures at market prices.

GDP at current prices – real-time database (YBHA)

(<https://www.ons.gov.uk/economy/grossdomesticproductgdp/datasets/realtimedatabaseforukgdpybha>)

Dataset | Released 29 September 2023

Quarterly levels for UK gross domestic product (GDP) at current market prices.

10. Glossary

Economic definitions



Select or search a term to see its description

Select or search a term

[Embed code](#)

11. Measuring the data

Reaching the GDP balance

The different data content and quality of the three approaches: the output approach, the expenditure approach and the income approach, dictate the approach taken in balancing quarterly data. In the UK, there are more data available on output in the short term than in either of the other two approaches. To obtain the best estimate of gross domestic product (GDP) (the published figure), the estimates from all three approaches are balanced to produce an average, except in the latest two quarters where the output data take the lead because of the larger data content.

Quarterly GDP is a balanced measure of the three approaches, while the GDP monthly estimate focuses on gross value added (GVA) and output as a proxy for GDP. This results in data differences (in both levels and growths terms) between the quarterly publications (average GDP) and the [GDP monthly estimate](https://www.ons.gov.uk/economy/grossdomesticproductgdp/bulletins/gdpmonthlyestimateuk/latest) (<https://www.ons.gov.uk/economy/grossdomesticproductgdp/bulletins/gdpmonthlyestimateuk/latest>) (output approach to GDP). Quarterly GDP is the lead measure of GDP because of its higher data content and inclusion of variables, which enable the conversion from a GVA concept to a GDP basis.

Information on the methods we use for [Balancing the output, income and expenditure approaches to measuring GDP](https://webarchive.nationalarchives.gov.uk/ukgwa/20160105160709/http://www.ons.gov.uk/ons/rel/naa1-rd/united-kingdom-national-accounts/the-blue-book--2012-edition/art---balancing-the-three-approaches-to-measuring-gdp.html) (<https://webarchive.nationalarchives.gov.uk/ukgwa/20160105160709/http://www.ons.gov.uk/ons/rel/naa1-rd/united-kingdom-national-accounts/the-blue-book--2012-edition/art---balancing-the-three-approaches-to-measuring-gdp.html>) is available.

Alignment adjustments, found in Table M of our [GDP first quarterly estimate data tables](https://www.ons.gov.uk/economy/grossdomesticproductgdp/datasets/uksecondestimateofgdpdatatables) (<https://www.ons.gov.uk/economy/grossdomesticproductgdp/datasets/uksecondestimateofgdpdatatables>), have a target limit of plus or minus £3,000 million on any quarter. However, in periods where the data sources are particularly difficult to balance, larger alignment adjustments are sometimes needed, as explained in our [Recent challenges of balancing the three approaches of GDP article](#)

(<https://www.ons.gov.uk/economy/grossdomesticproductgdp/articles/recentchallengesofbalancingthethreeapproachesofgdp/2022-04-20>). Our standard practice is to prefer that the alignment adjustment be out of tolerance rather than over-adjust individual GDP components to achieve a balance. This is most likely to occur in the latest quarter where the constraints are larger, where we must align to the output estimate for the change in GDP, and where the data content is at its lowest.

In this quarter, the alignment adjustment, used to align income to average GDP, is larger than normal (Table 3), reflecting the current challenges and uncertainties within the income approaches, in particular on the measurement of the Energy Price Guarantee scheme and the Energy Bill Relief Scheme within the accounts, although the size of this alignment adjustment has halved since the first estimate, reflecting upward revisions across income components. Work will continue with a focus on the income approaches to GDP, and we will continue to review this over the coming months as and when more information becomes available.

To achieve a balanced GDP dataset through alignment, balancing adjustments are applied to the components of GDP where data content is particularly weak in a given quarter because of a higher level of forecast content. The balancing adjustments applied in this estimate are shown in Table 6. The resulting series should be considered accordingly.

Table 6: Balancing adjustments applied to the GDP quarterly national accounts dataset
Quarter 1 (Jan to Mar) 2022 to Quarter 2 (Apr to June) 2023

**GDP measurement
approach and
component adjustment
applied to**

Q1 2022 Q2 2022 Q3 2022 Q4 2022 Q1 2023 Q2 2023

Expenditure

Non-profit institution serving households consumption	Current prices					120	-150
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	Chained volume measure	540	160	300	350	300	400
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Gross fixed capital formation	Current prices	1900	1200	100	200	-200	
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	Chained volume measure	900	500	500	1400	800	700
--	-------------------------------	-----	-----	-----	------	-----	-----

Change in inventories	Current prices	500	700	-250	200	-800	-300
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	Chained volume measure	-500	-600	-100	1400		500
--	-------------------------------	------	------	------	------	--	-----

Trade in services	Current prices	1500	1300	3500	800	2500	-1000
--------------------------	-----------------------	------	------	------	-----	------	-------

	Chained volume measure	2500	2600	2100	2600	2100	500
--	-------------------------------	------	------	------	------	------	-----

Income

Compensation of employees	Current prices	-1000	250				
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Private non-financial corporations gross operating surplus	Current prices		750	-1000	2500	1000	2000
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Source: GDP quarterly national accounts from the Office for National Statistics

Notes

1. Adjustments are in £ million.
2. Q1 refers to Quarter 1 (Jan to Mar), Q2 refers to Quarter 2 (Apr to June), Q3 refers to

GDP monthly estimate

Although this release focuses on providing the best quarterly estimate of GDP, an indicative monthly path for the updated time series is provided in the [dataset](https://www.ons.gov.uk/economy/grossdomesticproductgdp/datasets/indicativemonthlygdpconsistentwithquarterlynationalaccounts) (<https://www.ons.gov.uk/economy/grossdomesticproductgdp/datasets/indicativemonthlygdpconsistentwithquarterlynationalaccounts>). A full breakdown of the monthly data consistent with this quarterly release will be available in the next monthly GDP release (on 12 October 2023).

A number of changes have been made to the methods and data sources used in compiling monthly GDP and output approach to measuring GDP estimates as part of Blue Book 2023.

Deflators

As announced in our [Blue Book 2023 changes article](https://www.ons.gov.uk/economy/grossdomesticproductgdp/methodologies/impactofbluebook2023changesoncurrentpriceandvolumeestimatesofgrossdomesticproduct) (<https://www.ons.gov.uk/economy/grossdomesticproductgdp/methodologies/impactofbluebook2023changesoncurrentpriceandvolumeestimatesofgrossdomesticproduct>), we have made a number of deflator improvements as part of Blue Book 2023. The following deflator improvements have been incorporated in our monthly GDP estimates. These will affect all industries that produce these products.

The weights used to combined the Producer Price Index and Export Price Index to create an overall output price have been improved for all of manufacturing.

The amount of Services Producer Price Indices (SPPI) has been increased, replacing lower quality deflators for the following products:

- CPA_J62: Computer programming, consultancy and related services
- CPA_J63: Information services
- CPA_M691: Legal activities
- CPA_M692: Accounting, bookkeeping and auditing services; tax consulting services
- CPA_M70: Services of head offices; management consulting services
- CPA_M71: Architectural and engineering services; technical testing and analysis services
- CPA_M73: Advertising and market research services
- CPA_M74: Other professional, scientific and technical services
- CPA_N82: Office administrative, office support and other business support services

A new methodology to account for changes in the quality of computer hardware has been included within the deflator for product CPA_C26: Computer, electronic and optical products.

The deflator for product CPA_M72: Scientific research and development services has been updated to include a Consumer Price Index (CPI).

Implied deflators from household final consumption expenditure have been replaced with Consumer Price Indices (CPI).

Non-market and market sector breakdowns

We have expanded our non-market output industry coverage to be consistent with our approach to supply and use, bringing in data for the non-profit institutions serving households (NPISH) sector to go alongside general government data sources.

The annual Blue Book processing, where we align our monthly output estimates with the higher quality annual estimates of gross value added (GVA) from supply use, is now done separately for each sector, using estimates of market output for the market sector and non-market output for the non-market sector. These concepts are slightly different as the non-

market sector can produce market output where an economically significant fee is charged, which will be included in the GVA estimate but the approach taken provides the best estimate in the short term.

Estimates of GVA in the most recent time periods (often referred to as “the tail” which are time periods beyond where supply use estimates are available), are created separately for the market and non-market sectors by splicing the growth from our market and non-market output series onto the series that have been aligned to sectors GVA from supply use. This removes the need for fixed based weights for aggregating market and non-market data to estimate the total economy.

Market output continues to be measured in the same way, predominantly using the Monthly Business Survey (MBS). While the MBS will pick up some non-market output of the NPISH sector, this is a small component and it remains the best estimate of market sector growth in our short-term estimates.

Office for Statistics Regulation revisions of estimates of UK GDP review

As previously announced, the Office for Statistics Regulation (OSR) is undertaking a short review (<https://osr.statisticsauthority.gov.uk/correspondence/ed-humpherson-to-mike-keoghan-revisions-of-estimates-of-uk-gross-domestic-product-gdp/>) into the practices around the preparation and release of information about revisions to estimates of GDP. For more details please contact regulation@statistics.gov.uk.

12. Strengths and limitations

The UK National Accounts are drawn together using data from many different sources. This ensures that they are comprehensive and provide different perspectives on the economy, for example, sales by retailers and purchases by households. Further information on measuring gross domestic product (GDP) can be found in the [Guide to the UK National Accounts](#)

(<https://www.ons.gov.uk/economy/nationalaccounts/uksectoraccounts/methodologies/aguidetotheuknationalaccountsmarch2020>), and more quality and methodology information (QMI) is available in the [Gross domestic product \(GDP\) QMI](#) (<https://www.ons.gov.uk/economy/grossdomesticproductgdp/methodologies/grossdomesticproductgdpqmi>).

Important quality information

There are common pitfalls in interpreting data series, and these include:

- expectations of accuracy and reliability in early estimates are often too high
- revisions are an inevitable consequence of the trade-off between timeliness and accuracy
- early estimates are based on incomplete data

Very few statistical revisions arise as a result of “errors” in the popular sense of the word. All estimates, by definition, are subject to statistical “error”.

Many different approaches can be used to summarise revisions; the “Accuracy and reliability” section in the Gross domestic product (GDP) QMI analyses the mean average revision and the mean absolute revision for GDP estimates over data publication iterations.

13. Related links

[GDP first quarterly estimate, UK: January to March 2023](https://www.ons.gov.uk/economy/grossdomesticproductgdp/bulletins/gdpfirstquarterlyestimateuk/januarytomarch2023)

(<https://www.ons.gov.uk/economy/grossdomesticproductgdp/bulletins/gdpfirstquarterlyestimateuk/januarytomarch2023>)

Bulletin | Released 12 May 2023

First quarterly estimate of gross domestic product (GDP). Contains current and constant price data on the value of goods and services to indicate the economic performance of the UK.

[Measuring monthly and quarterly gross domestic product in the coronavirus \(COVID-19\) pandemic](https://www.ons.gov.uk/releases/measuringmonthlyandquarterlygrossdomesticproductinthecoronaviruscovid19pandemic)

(<https://www.ons.gov.uk/releases/measuringmonthlyandquarterlygrossdomesticproductinthecoronaviruscovid19pandemic>)

Article | Released 11 November 2021

How we produce monthly and quarterly estimates of UK gross domestic product and why this affects estimating where the economy is relative to its pre-coronavirus (COVID-19) pandemic level.

[International comparisons of GDP during the coronavirus \(COVID-19\) pandemic](https://www.ons.gov.uk/economy/grossdomesticproductgdp/articles/internationalcomparisonsofgdpduringthecoronaviruscovid19pandemic/2021-02-01)

(<https://www.ons.gov.uk/economy/grossdomesticproductgdp/articles/internationalcomparisonsofgdpduringthecoronaviruscovid19pandemic/2021-02-01>)

Article | Released 1 February 2021

The coronavirus (COVID-19) pandemic has led to record declines in gross domestic product (GDP) in advanced economies in 2020.

[Communicating the UK economic cycle](https://www.ons.gov.uk/economy/grossdomesticproductgdp/methodologies/communicatingtheukeconomiccycle)

(<https://www.ons.gov.uk/economy/grossdomesticproductgdp/methodologies/communicatingtheukeconomiccycle>)

Article | Released 11 November 2022

Explanation of movement in gross domestic product (GDP) and wider considerations around technical recessions in the UK.

14. Cite this statistical bulletin

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(<https://www.ons.gov.uk/economy/grossdomesticproductgdp/bulletins/quarterlynationalaccounts/apriltojune2023>)

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