

Article

Consumer price inflation, updating weights: 2023

An overview of the latest annual update of Consumer Prices Index including owner occupiers' housing costs (CPIH) weights.



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1 . Main changes

- The weights for the Consumer Prices Index including owner occupiers' housing costs (CPIH) and the Consumer Prices Index (CPI) have been updated to reflect changes in household spending patterns.
- For the 2023 weights, we have continued to align with international guidance and made adjustments to reflect the recovery of certain spending categories, following the coronavirus (COVID-19) pandemic.
- As a result of these adjustments, we have seen some significant changes in weight this year, compared with more typical periods.

2 . Overview of updates

The Office for National Statistics (ONS) reviews and updates the weights for its consumer price inflation “shopping basket” of goods and services each year, in line with international statistical guidance. This is to ensure they are representative of the latest household expenditure patterns.

Adjustments made to 2023 weights

For the Consumer Prices Index including owner occupiers' housing costs (CPIH) and the Consumer Prices Index (CPI), the 2023 weights would normally be based on spending patterns for 2021 from the national accounts. These are the latest set of reliable and complete data available for a full calendar year. We have used updated procedures for 2023, as set out in our [Consumer price inflation, UK: January 2023 bulletin](#), similar to what was used in our [2021 updating weights article](#) and [2022 updating weights article](#).

Our weights adjustments are consistent with the international approach, set out in the [Eurostat Derivation of HICP weights for 2023 methodology \(PDF, 64.3KB\)](#). We have adjusted the weights where there has been a clear change in spending between 2021 and 2022, as the economy continues to recover from the coronavirus (COVID-19) pandemic (see [Section 5: Data sources and quality](#)).

For the Retail Prices Index (RPI), the 2023 weights are based on spending patterns for the 12 months ending June 2022 from our Living Costs and Food Survey. We use the results from the survey without further adjustment, consistent with our practice in recent years.

This article will focus on CPIH. Further detail on the methods discussed in this article can be found in our [CPIH compendium](#), [Consumer Price Indices technical manual, 2019](#), and the more detailed [2021 updating weights article](#).

3 . Weights for 2023

Consumer price inflation is the rate that the prices of goods and services rise or fall, estimated using price indices. The components of price indices are weighted using the amount we spend on these items, to ensure that it reflects their relative importance.

The weights used for consumer price inflation, and the items that form the “shopping basket” are reviewed and updated each year. Our [Consumer price inflation basket of goods and services: 2023 article](#) explains the annual update to the content of the basket of goods and services.

Weight changes between 2023 and 2022

These weights reflect the best available understanding of what households spent their money on at the time the weights were produced. The [Revisions Policy for Consumer Price Inflation Statistics \(PDF, 49.6KB\)](#) means that indices are not revised historically. Source data are often revised, but these revisions are not taken into the calculation of weights. For instance, only the latest year's data are used in each weights update. Therefore, the changes in weights between years reflect changes in data sources, methods, definitions, and changes in spending patterns. Our [Introduction to the UK National Accounts introduced improvements](#) in the 2022 Blue Book that affect the current set of weights. Therefore, the weights should not be used to analyse trends in consumer spending over time.

The 2023 weights were calculated after the impact of coronavirus (COVID-19). Therefore, the latest weights show some larger movements between years than would typically be expected.

The update of 2023 weights included two separate updates, in line with the "double update" [Assessing the impact of methodological improvements on the Consumer Price Index \(CPI\) methodology](#). For the January 2023 indices, expenditure for 2021 is price updated to December 2022 (notwithstanding adjustments made reflecting the coronavirus pandemic in 2022). For the February to December 2023 indices, the expenditure for 2021 is price updated to January 2023.

Tables 1 and 2 present the Consumer Price Index including owner occupier's housing costs (CPIH) and CPI divisional level classification of individual consumption by purpose (COICOP) weights, respectively. Typically, changes in weight between years can be caused by two factors:

- a change in the underlying expenditure used to calculate the weight
- a change in the price factor applied to price update the expenditure (applying price change to the expenditure to bring it in line with the price reference period)

The change when comparing the February 2023 and January 2023 updates will be driven by notable movement in price update factor. Changes when comparing the January 2023 updated weights with last year's weights will be because of changes in expenditure (comparing underlying expenditure used in this update with the expenditure used last year) and notable movement in the price update factor. Weights are relative, so changes in weight caused by the two factors will cause a relative reallocation of weight elsewhere in the basket.

Table 1: CPIH division level weights, 2022 to 2023 [Note 1]

| CPIH Division | 2022 February to December weight (PPT) | 2023 Weight January update (PPT) [Note 2] | 2023 February to December weight (PPT) |
|--|---|--|---|
| 0.1 Food and non-alcoholic beverages | 93 | 95 | 96 |
| 0.2 Alcoholic beverages and tobacco | 39 | 34 | 35 |
| 0.3 Clothing and footwear | 49 | 49 | 48 |
| 0.4 Housing, water, electricity, gas and other fuels | 314 | 300 | 303 |
| 0.5 Furniture, household equipment and maintenance | 63 | 56 | 56 |
| 0.6 Health | 18 | 18 | 18 |
| 0.7 Transport | 111 | 115 | 111 |
| 0.8 Communication | 19 | 19 | 19 |
| 0.9 Recreation and culture | 105 | 111 | 112 |
| 10. Education | 26 | 22 | 23 |
| 11. Restaurants & hotels | 90 | 113 | 112 |
| 12. Miscellaneous goods and services | 73 | 68 | 67 |
| Total | 1000 | 1000 | 1000 |

Source: Office for National Statistics

Notes:

1. [A double weights update was introduced in 2017. The first update of weights covers the January period only. The second update covers the period February to December.](#)
2. 2023 weights have been adjusted to reflect the impact of the coronavirus (COVID-19) pandemic on household expenditure in 2022. See [Section 8: Measuring the data of our Consumer price inflation, UK: January 2023 bulletin.](#)
3. Parts per thousand (PPT).

Table 2: Consumer Price Index division level weights, 2022 to 2023 [Note 1]

| CPI Division | 2022 February to December weight (PPT) | 2023 Weight January update (PPT) [Note 2] | 2023 February to December weight (PPT) |
|--|--|---|--|
| 0.1 Food and non-alcoholic beverages | 116 | 117 | 119 |
| 0.2 Alcoholic beverages and tobacco | 50 | 42 | 42 |
| 0.3 Clothing and footwear | 60 | 60 | 58 |
| 0.4 Housing, water, electricity, gas and other fuels | 138 | 138 | 141 |
| 0.5 Furniture, household equipment and maintenance | 76 | 69 | 68 |
| 0.6 Health | 21 | 23 | 24 |
| 0.7 Transport | 139 | 142 | 137 |
| 0.8 Communication | 25 | 22 | 23 |
| 0.9 Recreation and culture | 134 | 138 | 138 |
| 10. Education | 33 | 29 | 29 |
| 11. Restaurants & hotels | 114 | 138 | 138 |
| 12. Miscellaneous goods and services | 94 | 82 | 83 |
| Total | 1000 | 1000 | 1000 |

Source: Office for National Statistics

Notes:

1. [A double weights update was introduced in 2017. The first update of weights covers the January period only. The second update covers the period February to December.](#)
2. 2023 weights have been adjusted to reflect the impact of the coronavirus (COVID-19) pandemic on household expenditure in 2022. See [Section 8: Measuring the data of our Consumer price inflation, UK: January 2023 bulletin.](#)
3. Parts per thousand (PPT).

There are several divisions with notable movements when comparing the 2023 updated CPIH weights with 2022 weights. [Consumer price inflation, updating weights: Annex A](#) presents the detailed weights.

Division 2: Alcohol and tobacco

There is no direct COVID-19 adjustment made to the expenditure underpinning this division. The fall in weight is driven by a fall in expenditure and then weight in some COICOP5 component indices. An explanation of the COICOP hierarchical structure used in CPIH and CPI can be found in [Section 3: Weights for 2021 of the Consumer price inflation, updating weights: 2021 article](#). The COICOP5:

- for spirits has fallen 1.0 parts per thousand (ppt) after a 11% fall in expenditure
- for wine has fallen by 1.77 ppt after a 7.2% fall in expenditure and a 3.2% fall in price update factor
- for lager has fallen 1.07 ppt after a 18.4% fall in expenditure offset by 2.5% increase in price update factor

Division 4: Housing, water, electricity, gas, and other fuels

Owner occupiers' housing has fallen by 14.0 ppt between updates and actual rents for housing fell by 5.0 ppt. Underlying expenditure is relatively flat. However, the fall in weight is caused by a reallocation of weight in the basket where more substantive changes have occurred and where the total CPIH basket expenditure has increased by almost 15% compared with 2022.

This is offset by electricity, which increased by 5.0 ppt, and natural gas has increased 5.0 ppt. Both saw significant increases in expenditure (adjustments applied to reflect 2022 spending) and had increases in the price update ratio.

Division 5: Furniture and equipment

There is a general downward trend in weight at small levels across most of the division. However, the most notable falls are the COICOP5:

- for household furniture, which fell in weight by 2.79 ppt, with a 4.2% fall in underlying expenditure; however, the fall in weight is driven by increases elsewhere in basket
- for washing machines etc., which fell 1.51 ppt, driven by a 61.6% fall in underlying expenditure, offset by a 5.4% increase in price update factor
- for cleaning equipment, which fell 0.87 ppt, with a fall in expenditure of 21% and a 5.1% fall in price update factor
- for non-electric kitchen utensils, which fell 1.17 ppt, driven by a 21% fall in expenditure, offset by a 6.5% increase in price update factor

Division 7: Transport

COVID-19 adjustments were applied in this division, in both 2022 and 2023 weights, to reflect the impact of COVID-19 on travel and transport as travel opened post-pandemic.

Transport by train increased by 3.8 ppt because of a 118.5% increase in expenditure (adjustment applied). International flights increased 3.8 ppt because of a 166.6% increase in expenditure (adjustment applied) and a 58.9% increase in price update factor.

This is offset by maintenance of personal transport, which fell 4.0 ppt, driven by a 16.4% fall in underlying expenditure. This was offset by a 4.7% increase in price update factor.

In this division, new cars fell by 2.0 ppt. There was a 5% fall in underlying expenditure, offset by a 2.8% increase in price update factor. Meanwhile, second-hand cars increased by 1.0 ppt, driven by a 43% increase in underlying expenditure, offset by a fall in price update factor.

Division 9: Recreation and culture

There were adjustments made to the underlying expenditure, to reflect the impact of the pandemic.

Package holidays has seen a 13.0 ppt increase between weights updates, reflecting the increase in post-pandemic travel. This is driven by a 133.8% increase in underlying expenditure (following adjustment) and a 3.7% increase in price update factor. Recreational and sports participation increased by 2.52 ppt, after a 66.8% increase in expenditure (adjustment applied). Cinemas, theatres etc. increased by 1.44 ppt, following a 56.6% increase in expenditure (adjustment applied). TV and radio licenses etc. increased by 1.56 ppt, after a 44.2% increase in expenditure (adjustment applied).

Notable offsetting changes include pre-recorded recording media falling 3.64 ppt, after a 54.6% fall in expenditure. Moreover, campervans fell by 4.72 ppt and boats and major durables for in- and outdoor recreation fell by 1.7 ppt. This came after a large fall in the underlying expenditure used between weights updates. These areas of the basket have seen improvements and revisions to underlying expenditure as part of the latest 2022 Blue Book update, which contributes to the change in weight.

Division 10: Education

The COICOP5 for tertiary education has seen a 5.06 ppt weight fall, driven by a 11% fall in expenditure. This is offset by secondary education, which has increased in weight by 1.26 ppt because of a 115% increase in expenditure. This is another area of the basket where Blue Book 2022 improvements are contributing to changes in the underlying expenditure.

Division 11: Restaurants and hotels

There were adjustments made to the underlying expenditure, to reflect the recovery from the COVID-19 pandemic.

The COICOP5 for restaurants and cafes etc. increased by 12.0 ppt. Fast food etc. increased by 4.0 ppt. Both increased after a 37% increase in expenditure, subject to COVID-19 adjustments to reflect the increased spending in this area, post-pandemic.

Similarly, hotels, motels etc. has increased 5.16 ppt after a 40.8% increase in expenditure (adjustment applied), along with an 8.2% increase in price update factor.

The increase in underlying expenditure in this division, adjusted to reflect 2022 spending, is apparent in the most up to date Household Final Consumption Expenditure (HFCE) data in our [Consumer trends dataset](#) (table 11b, quarters 1 to 3, second estimate).

Division 12: Miscellaneous goods and services

There have been adjustments made to the underlying expenditure in this division to reflect the recovery from COVID-19. However, the overall change in weight is mixed across COICOP5 components:

- childcare services fell 5.46 ppt, after a 45.6% fall in expenditure between updates; there are Blue Book 2022 improvements underpinning the expenditure change
- personal hygiene fell 2.83 ppt, after a fall in expenditure of 13.1%, offset by an increase in price update factor of 10%
- other fees and services fell by 1.29 ppt, after a fall in expenditure of 10.5%

This was offset by:

- jewellery, which increased by 1.54 ppt after a 44.7% increase in expenditure, coupled with a 7.1% increase in price update factor
- private and other health insurance increased 2.0 ppt after a 68.8% increase in expenditure (adjustment applied), along with a 6.7% increase in price update factor

Other notable movements between the January 2023 and 2022 weights update were the COICOP5:

- for pharmaceutical products, which fell by 3.0 ppt, driven by a 30.5% fall in underlying expenditure
- for hospital services, which increased by 2.0 ppt and medical services etc., which increased by 1.0 ppt, following a large increase in underlying expenditures; these were both subject to improvements, as part of the Blue Book 2022 changes
- for mobile telephone equipment, which saw an increase in weight of 1.80 ppt, following an increase in underlying expenditure, offset by a fall in price update factor

Notable movements between the January 2023 and February 2023 update

Most divisions experience small, offsetting change in weight of plus or minus one ppt, driven by a change in the price update ratio used at the February 2023 update (where the underlying price index has changed). There are two divisions which warrant a mention:

Division 4: Housing, water, electricity, gas and other fuels

Electricity increased by 1.0 ppt between 2023 updates, and gas increased 1.0 ppt. This was driven by small increases in price ratio, which has pushed the weights up.

Division 7: Transport

International flights saw a fall in weight of 2.85 ppt. This follows the seasonal fall in price (outlined in our [Consumer price inflation, UK: January 2023 bulletin](#)) of approximately 42% between December 2022 and January 2023. There was a fall of 0.6 ppt for petrol and 0.39 ppt for diesel after price falls seen between the 2023 weights updates.

4 . Consumer price inflation weights data

[Consumer price inflation, updating weights: Annex A, Tables W1 to W3](#)

Dataset | Released 14 March 2022

The latest annual update of consumer price inflation weights, 2022.

5 . Data sources and quality

The normal update of weights would be based on national accounts Household Final Consumption Expenditure (HFCE) data at a two-year lag. However, in the 2021 and 2022 weights updates, we made further adjustments to incorporate some of the larger changes in spending patterns seen in the base year. More information is provided in our [Coronavirus \(COVID-19\) and Consumer Price Inflation weights and prices: 2021 article](#). This approach was consistent with [Eurostat guidance on the compilation of HICP weights in case of large changes in consumer expenditures \(PDF, 503KB\)](#). The guidance stipulated that “the expenditure shares used for the HICP (Harmonised Index of Consumer Prices, an internationally comparable measure of consumer price inflation, as measured by the Consumer Price Index (CPI) in the UK) in year ‘t’ should be representative of year ‘t-1’”. This is in line with the overall Laspeyres philosophy of the HICP”.

For this year’s update we have adopted a similar approach, to reflect a shift in spending as certain areas of the economy recovered from the coronavirus pandemic. We estimated a 2022 dataset by taking the most up to date HFCE data available in our [Consumer trends, UK: July to September 2022 bulletin](#) (quarters 1 to 3, second estimate) and imputing the fourth quarter, based on the 2021 seasonal growth. This was done because this is the most recent period with no national movement restrictions in place. We used the same threshold as the previous year (25%) to identify classification of individual consumption by purpose (COICOP) classes where there were large changes in spending levels between 2021 and 2022. For these classes, we replaced the usual 2021 expenditure with the 2022 estimate, as shown in Table 3. For some of these classes, we also made some additional changes:

- for energy classes that had experienced high inflation over the year, we adjusted our imputed estimate for Quarter 4 (Oct to Dec) 2022 to account for the general change in prices
- for some passenger transport and cultural services classes, we imputed Quarter 4 2022 using the 2019 growth rather than 2021; this was where 2021 spending may have been affected by ongoing movement restrictions in other countries, or where consumer confidence was slower to recover following the end of national movement restrictions across the UK

Our approach is consistent with the latest [Eurostat derivation of HICP weights for 2023 guidance \(PDF, 64.3KB\)](#).

The Consumer Price Index including owner occupier's housing costs (CPIH) and CPI COICOP classes that have been adjusted are detailed in Table 3.

Table 3: COICOP [Note 1] categories adjusted to reflect 2022 expenditure in the latest Consumer Inflation Weights

COICOP category adjusted to reflect 2022 expenditure

| | |
|----------|--|
| 04.5.1 | Electricity |
| 04.5.2 | Gas |
| 04.5.3 | Liquid fuels |
| 05.3.3 | Repair of household appliances |
| 06.2.2 | Dental services |
| 07.2.2 | Fuels and lubricants |
| 07.3.1 | Passenger transport by railway |
| 07.3.2/6 | Passenger transport by road and other transport services |
| 07.3.3 | Passenger transport by air |
| 09.4.1 | Recreational and sporting services |
| 09.4.2 | Cultural services |
| 11.1.1 | Restaurants & cafes |
| 11.1.2 | Canteens |
| 11.2 | Accommodation services |
| 12.1.1 | Hairdressing and personal grooming establishments |
| 12.3.2 | Other personal effects |
| 12.5.3/5 | Health insurance and other insurance |
| 9.6 | Package holidays |

Source: Office for National Statistics

Notes:

1. classification of individual consumption by purpose.

6 . Future developments

This weights update represents our best estimates of consumer spending now. They will not be revised later in the year.

7 . Related links

[Consumer price inflation, updating weights: 2022](#)

Article | Released 14 March 2022

An overview of the latest annual update of Consumer Prices Index including owner occupier's housing costs (CPIH) weights.

[Consumer price inflation, updating weights: 2021](#)

Article | 15 March 2021

An overview of the latest annual update of Consumer Prices Index including owner occupier's housing costs (CPIH) weights.

[Consumer price inflation basket of goods and services: 2023](#)

Article | 13 March 2023

The review process for the items making up the inflation basket used to calculate the UK consumer price inflation indices and how and why the various items in the basket are chosen.

[Coronavirus \(COVID-19\) and Consumer Price Inflation weights and prices: 2021](#)

Article | Released 11 February 2021

This article describes our approach to calculating weights and collecting reference prices for 2021 in the context of the coronavirus (COVID-19) pandemic.

8 . Cite this article

Office for National Statistics (ONS), released 13 March 2023, ONS website, article, [Consumer price inflation, updating weights: 2023](#)