Calculating the Household Costs Indices

We describe the Household Costs Indices and how they are calculated. Part of technical guidance on consumer prices indices.

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1 . Overview

Consumer prices statistics measure the change in the price of the goods and services that consumers buy over time. Another way to understand this is as a very large shopping “basket” comprising the various goods and services bought by a typical household. We measure the monthly change in the total cost of this basket.

The Household Costs Indices (HCIs) complement the Consumer Prices Index including owner occupiers’ housing costs (CPIH) and the Consumer Prices Index (CPI). CPIH, CPI and the HCIs all show how the prices of goods and services consumed by households in the UK change over time. While CPIH and CPI focus on inflation across the UK economy as a whole, the HCIs instead offer insight into the inflationary experience of different household groups. This article describes how they are calculated.

How we compile measures of inflation

This article is part of a set explaining how consumer price inflation and associated indices are compiled. Other related guidance articles include:

- Consumer prices indices technical guidance
- Scope and coverage of consumer prices indices
- Traditional data aggregates in consumer prices
- Special case aggregates in consumer prices
- Alternative data aggregates in consumer prices
- Private rents and owner-occupier housing aggregates in consumer prices
- Higher-level aggregation and weights in consumer prices
- Calculating the Retail Prices Index
- How we publish our consumer prices outputs

2 . About the Household Costs Indices

Consumer prices statistics measure the change in price of a “fixed basket” of goods and services, as described in our Guide to Consumer Price Indices. For the Household Costs Indices (HCIs), the weight of each component in a household group’s “fixed basket” is based on the average household’s share of expenditure (“democratic” weights). By contrast, the Consumer Prices Index including owner occupiers’ housing costs (CPIH) and Consumer Prices Index (CPI) baskets reflect the total share of expenditure across all households in the UK (“plutocratic” weights). For more insights on the impact of democratic weighting, please refer to our Investigating the impact of different weighting methods on CPIH article.

The HCIs also include changes in mortgage interest rates, Stamp Duty and other costs related to the purchase of a dwelling. These are omitted from CPI and estimated using equivalent rental prices in CPIH, reflecting its different use case (see our Measuring changing prices and costs for consumers and households article). Further differences are described in our Household Costs Indices for UK household groups quality and methodology information (QMI).

These differences are central to the purpose of HCIs and form the focus of this article.

The HCI approach is particularly suited to understanding the impact of inflation on specific groups such as pensioners, renters, or low-income households. Estimates are published every quarter but are presented as monthly data. Each publication includes three consecutive months. For example, the May publication includes January to March data. This means that within a single bulletin the data are subject to different lags, ranging from approximately two to five months. HCIs are currently classified as official statistics in development, with plans to move to accredited official statistics in the coming years.

What the Household Costs Indices aim to measure

Our Measuring changing prices and costs for consumers and households article sets out how the “use case” for Household Costs Indices (HCIs) differs from the Consumer Prices Index (CPI) and CPI including owner occupiers’ housing costs (CPIH). CPIH and CPI are measures of price change based on economic principles, and reflect consumer price inflation across the UK economy. The HCIs reflect how different household groups experience inflation, specifically:

- income deciles
- tenure types
- retirement status
- households with and without children

Work on the HCIs began in 2016 (referred to at the time as the “Index of Household Payments”, or IHP), following the Royal Statistical Society’s 2015 paper Towards a Household Inflation Index (PDF, 946KB), which recommended the development of a household-oriented “Household Inflation Index”. Paul Johnson’s review of consumer price statistics (PDF, 175KB), published the same year, also considered this idea and set out some main considerations for the development of such a measure. In particular, it recommended that the focus should be on subgroups of the population.

The development of HCIs has evolved through several stages. Initial work exploring the feasibility of an IHP sought feedback from users and the Advisory Panels on Consumer Prices (APCPs). This led to the adoption of the name “Household Costs Indices” and a clear focus on household groups rather than a single aggregate measure.

The first preliminary estimates of HCIs, published in 2017, introduced democratic weighting and coverage of household-specific costs such as mortgage interest. Insurance premiums were also included on a payments basis. Subsequent developments moved university education onto a payments basis by incorporating student loan repayments and tuition fees paid upfront, and the coverage of interest payments was expanded to incorporate further lending products.

In 2019, a workshop was held in collaboration with the Economic Statistics Centre of Excellence (ESCOE) to discuss the conceptual foundations of the Household Costs Indices. Subsequent discussion with the Stakeholder APCP (PDF, 116KB), and Aitken and Weale’s 2021 paper On Household Costs Indices, have helped to set the scope for the HCIs.

HCIs use democratic weighting rather than plutocratic weighting. Conceptually, this is consistent with the use case for a measure that reflects households’ experiences of inflation, since democratic weights reflect the expenditure share of “the average household”.

The HCIs also treat many items on a “payments” basis. That is, price changes are captured as goods and services are paid for, rather than when they are acquired or used. This also aligns with the use case for the HCIs.

For many goods and services, the timing of payments, acquisition or usage makes little difference. However, this is not always the case (see in particular our Private rents and owner-occupier housing aggregates in consumer prices article).

In practice, the HCIs incorporate a payments approach through owner occupiers’ housing costs, interest payments, student loan repayments and the full cost of insurance premiums (without accounting for money redistributed to households following claims).

In On Household Costs Indices (Aitken and Weale, 2021) (PDF, 539KB), the authors consider the coherence of the payments framework as applied to the HCIs. They raise some important considerations.

Firstly, payments can be made at one of three points in time: either at the point of acquisition (which applies to most of the basket), before acquisition (for example, through savings and investments), or after acquisition (for example, through a finance arrangement). In a coherent framework, we would capture all of these types of payments, however, this is clearly neither practical nor meaningful.

Aitken and Weale argue that “the student loan scheme has many of the characteristics of a tax and can be defended on those grounds”. Therefore, student loan repayments can be considered part of a coherent framework.

Secondly, the treatment of interest payments is also discussed since households pay interest but will also benefit from interest received on savings (which, as discussed previously, is a payment for future acquisitions). Therefore, if interest payments are counted as costs, interest receipts should also be considered as offsets, otherwise a payments index will overstate the cost pressures faced by households.

In practice, HCIs treat debt interest on a gross basis. It is therefore important for users to consider the HCIs alongside a comparable income measure in order to fully understand households' experiences and to avoid potential biases.

Section 3: Democratic weights will focus on describing the weighting process.

3 . Democratic weights

A fundamental distinction between the Household Costs Indices (HCIs) and the UK's other consumer price indices lies in the weighting approach. While the Consumer Prices Index (CPI) and Consumer Prices Index including owner occupiers' housing costs (CPIH) apply plutocratic weights, the HCIs adopt democratic weighting.

Under democratic weighting, each household contributes equally to the calculation of the index, regardless of its level of spending. This approach ensures that the inflation measure reflects the experience of the typical household rather than the aggregate economy.

By contrast, plutocratic weighting assigns greater weight to households with higher total expenditure. This is because plutocratic weighting is relative to the total pounds sterling value of all items bought within the economy, and so the method maintains the purchasing power of the national currency (one Great British Pound (GBP) in the UK). This is a useful property in economic contexts, whereas the democratic approach is more useful for understanding households' experience.

Research by the Office for National Statistics (ONS) suggests that, for example, the CPIH broadly reflects the experience of households around two-thirds of the way up the expenditure distribution, while a democratic index would better capture the experience of the "average" household.

To calculate democratic weights, HCIs use expenditure data from the Living Costs and Food (LCF) Survey, along with the national accounts expenditure totals used to calculate the CPIH weights (for more information see our Higher-level aggregation and weights in consumer prices article).

Data sources: household-level expenditure

First, household-level expenditure data are taken from the Living Costs and Food (LCF) Survey. The LCF is a continuous survey of the expenditure patterns of UK private households based on a sample of around 6,000 responding households per year. Demographic information about each household is also collected, along with the components required to calculate expenditure for each of the 87 class-level categories (Level 4 on the Classification of Individual Consumption by Purpose, or "COICOP").

The LCF data we use are at a lag of two years from the reference period and based on a calendar year. For example, the 2023 index weights were based on expenditure of LCF households surveyed between January 2021 and December 2021.

We remove any households who report negative expenditure and households who spend 80% or more of their total expenditure on a single class-level category. This removes around 0.5% of the total sample and has no discernible impact on our results. Households who report very high total expenditure are legitimate members of the sample and represent the very high expenditure households in the population. They are not excluded from the calculation.

Creation of additional household-level variables

There are some cases where the LCF Survey does not fully capture all of the spending that is in scope of the HCIs. In these instances, we calculate supplementary variables to estimate the missing expenditures for each survey respondent.

Interest on loans

Questions relating to outstanding balances on loans and hire purchases, alongside questions requesting the annual percentage rate, have been added to the LCF from the first quarter of 2025 (January to March). We expect to be able to use the survey variables to derive household-level loan interest repayments with the 2027 weights update. For historical data, we expect to introduce a calculation using the historical loan questions in the LCF. However, the historical calculations are likely to require more assumptions than for the new variables.

Under existing processes, household-level interest payments for loans and hire purchases are not included. Implicitly, expenditure on these lending products is assigned to households with overdraft and credit card payments.

Interest on overdrafts

Interest paid on overdrafts is not currently included in the LCF. The survey does include an indicator variable, which identifies whether a respondent makes use of an overdraft. For these households, we impute an overdraft amount.

A multiple regression model is built using data from the Wealth and Assets Survey (WAS). We identify common variables between the two datasets and use them to predict an amount for “Value of current accounts overdrawn” in the WAS. The regression coefficient is then used to calculate an overdraft amount in the LCF.

As a simplified example, if the model identified from the WAS data was:
$Overdraft_{household\ h} = 550 + 0.8 \times Council\ Tax + 75 \times Number\ of\ adults + error$

Then, for a two-adult household with an overdraft, that pays Council Tax of £250, we would impute an overdraft of:
$550 + 0.8 \times 250 + 75 \times 2 = £900.$

(Note that although Council Tax is not directly related to overdraft interest, it can act as a proxy for household characteristics correlated with overdraft usage. In this example, Council Tax and number of adults are illustrative predictors used to impute overdraft levels from the WAS data.)

A new model is derived every time a new WAS dataset is available (broadly on a two-year schedule). The most recent available model is used to impute the data in the annual LCF dataset.

We use average interest rates from the Bank of England website to derive an interest payment from the overdraft amount.

Stamp Duty

We also use household-level estimates of Stamp Duty payments, which are produced for our Effects of taxes and benefits on UK household income bulletin.

Data sources: total domestic expenditure

In addition to micro-level data from the LCF, we make use of the aggregate household spending data that underpin the class-level weights and above used in the construction of CPIH. These are largely derived from System of National Accounts: SNA 2008 estimates of household final consumption expenditure (HHFCE).

They provide more robust estimates of total expenditure at COICOP4 than the equivalent estimated LCF totals. We use annual HHFCE expenditure totals at a two-year lag. For more information on CPIH weights, please refer to our Higher-level aggregation and weights in consumer prices article.

Differences in scope

Because the scope of the HCIs differs to the scope of CPIH, it is necessary to calculate expenditure totals for further categories not included in CPIH. The additional expenditures are consistent with the population, and base and reference period of CPIH. These are described in the following sections.

Weights for actual rental components (COICOP 4.1)

Actual rental prices are included in CPIH under the “actual rentals” class. This includes private rentals, local authority rents, registered social landlord rents and UK holiday lets. However, for the HCIs, it would not be appropriate to group these components together. This is because a private renter is unlikely to be a social renter, and a social renter is unlikely to be a private renter. It is important not to conflate rental expenditure for private renters with expenditure on social rents, for example.

For HCIs therefore, the actual rental expenditure is separated out into three “pseudo”-classes: 4.1a private rentals, 4.1b social and other rentals, and 4.1c UK holiday rentals. To achieve this, the CPIH expenditure total is reapportioned using the relevant item weights.

Owner occupiers’ housing costs (COICOP 4.2)

The HCIs measure owner occupiers’ housing (OOH) costs on a payments basis (for more information on owner occupiers’ housing costs please refer to our Private rents and owner occupier housing aggregates in consumer prices article). In practice, this means capturing the payments that households make to consume OOH services. These are separated out over four expenditure categories:

- 4.2a Mortgage interest payments expenditure is derived from the index calculation (described in more detail in our Calculating the Retail Prices Index article); average weekly mortgage interest payments are scaled up to reflect total household expenditure over the whole month, and then months are summed to give an annual expenditure total

- 4.2b Stamp Duty expenditure is derived by summing firstly Stamp Duty Land Tax revenues for England and Northern Ireland sourced from HM Revenue and Customs (HMRC), secondly Land and Buildings Transaction Tax revenues for Scotland (sourced from Revenue Scotland) and thirdly Land Transaction Tax revenues for Wales (sourced from the Welsh Government); the resulting total is then scaled by the proportion of owner occupied dwelling stock (sourced from ONS dwelling stock by tenure estimates) to give annual Stamp Duty expenditure

- 4.2c Other owner occupier’s housing payments include dwelling insurance, ground rent, home buyers’ survey, house conveyancing and estate agents’ fees; as these are all components of the Retail Prices Index (RPI), RPI expenditures are used (but scaled to reflect annual population totals consistent with CPIH, rather than weekly average expenditures); for more information on how RPI weights are constructed, please refer to our Calculating the Retail Prices Index article

- 4.3 Maintenance and repair of the dwelling expenditure is derived by summing regular repairs and maintenance expenditure (already captured in the CPIH framework) with a further estimate of major repairs and maintenance, which is also sourced from HHFCE; the major repairs and maintenance element aims to capture significant but irregular repairs and maintenance that contribute to the upkeep of the home rather than improving the property

Education (COICOP 10.0)

Unlike CPIH and CPI, which capture the cost of acquiring a university education (that is, tuition fees), the HCIs aim to capture the payments that households make.

University education can be paid for either through a student loan, which is paid back incrementally over a number of years after graduation, or paid entirely upfront. For the “education” weight, it is therefore necessary to capture annual payments for both aspects. For student loan repayments, we aim to capture the total amount repaid by graduates in the weight reference year. For tuition fees paid upfront, we aim to capture the total amount of tuition fees paid directly in the weight reference year.

Estimates for university education expenditure on a payments basis – student loan repayments and tuition fees paid upfront – are calculated separately (as described in the following sections). The expenditure underpinning the “education” weight in CPIH is adjusted to remove the acquisition-based expenditure for “440239 UK university tuition fees”. This expenditure is replaced with the payments estimates instead.

Student loan repayments

Annual student loan repayment data are sourced from HM Revenue and Customs (HMRC) and the Student Loans Company for each of the devolved governments. Voluntary repayments are in scope of consumer expenditure on education and so are included in the weight (it is not possible to calculate an index for voluntary student loan repayments, so it is implicitly assumed that voluntary repayments change at the same rate as mandatory repayments).

Repayments are summed for each repayment cohort separately. A repayment cohort refers to the set of loans that were taken out three years before repayments beginning. Totals are then scaled by the proportion of loans taken out by each cohort that are not maintenance loans (based on Student Loan Company data). This is because maintenance loans are used to fund expenditures that are typically captured elsewhere in the basket, rather than to pay for university tuition.

Data sources that are not available on a calendar basis are converted onto a calendar basis, so the expenditure reflects the same year as used to derive the weights across the rest of the HCIs basket. For example, the financial year 2024 to 2025 (FYE 2025) ran from April 2024 to March 2025, and the financial year 2025 to 2026 (FYE 2026) ran from April 2025 to March 2026. To calculate a calendar year (CY) total for 2025, we would apply the following conversion:

$$CY\left(2025\right) = \frac{9}{12} \times FYE\left(2025\right) + \frac{3}{12} \times FYE\left(2026\right).$$

Repayments are then summed for each cohort, and then totals are summed across the four nations.

Tuition fees paid upfront

Data on tuition fees paid by year are sourced from the Higher Education Statistics Agency (HESA). Undergraduate, Postgraduate Certificate in Education (PGCE) and postgraduate fees are summed including both part-time and full-time study. Tuition fee loan totals, used in the calculation of the student loan repayment weight (see the previous section) are subtracted from this amount to arrive at the total expenditure on tuition fees paid upfront.

For Northern Ireland, this calculation can result in negative expenditures, reflecting the fact that many students may choose to study in the Republic of Ireland rather than the UK. Such expenditures are out of scope of a domestic expenditure weight (which measures spending in the UK, rather than the spending of UK households). Upfront tuition fee payments are instead estimated by applying the proportion of fees paid upfront in England and Wales to the total tuition fees paid in Northern Ireland.

Estimates for each of the four UK nations are summed together to give the total UK expenditure on tuition fees that are paid upfront.

Insurance (COICOP 12.5)

Insurance expenditure in the CPIH is calculated net of claims, to reflect the acquisition cost of insurance services. In other words, insurance expenditure is partly to pay for the cost of administering insurance services, and partly a payment into a “claims pool”, which is used to reimburse households, for example, for theft or loss of goods. Because this claims pool is paid back out to households, the resulting household expenditures are captured under the relevant expenditure categories. The net approach is used in CPIH to avoid double-counting expenditures.

However, on a payments basis, the gross cost of insurance premiums is captured. This is the same methodology that is used for the Retail Prices Index (RPI), and so RPI expenditures are used (but scaled to reflect annual population totals consistent with CPIH, rather than weekly average expenditures). For more information on how RPI weights are constructed, please refer to our Calculating the Retail Prices Index article.

Interest on debt (COICOP 12.6.9)

A measure of interest on debt is also included in the HCIs to reflect repayments for goods and services through various forms of lending. Specifically, this includes:

- secured and unsecured loans
- hire purchase
- credit cards and mail order
- overdrafts

Payday loans are not currently in scope of the HCIs' weight, as no suitable data source has been identified.

Interest on debt is captured in this way because lending can be used to finance a wide range of products and it is not possible to assign repayments directly to a relevant spending category (for example, white goods). Therefore, rather than including repayments directly in every expenditure category, we use a separate "interest on debt" class to capture the interest repayments. There are some exceptions: student loan repayments, for the reasons described in Section 2, What the Household Costs Indices aim to measure, and mortgage interest payments, which are captured in Section 4, Owner occupiers' housing costs instead.

Total repayments are derived from the Wealth and Assets Survey (WAS), the Living Costs and Food (LCF) Survey, and Bank of England (BoE) average interest rate data.

The LCF Survey includes a variable for credit card interest, so total annual credit card interest repayments for the UK population can be captured directly.

The remaining lending types are not captured directly, so we use data from WAS to estimate them. There are a number of adjustments we need to make to incorporate these data into the HCIs framework:

- WAS is a longitudinal survey, where the same households are revisited across successive "waves", however, as we seek to derive annual population totals, it is sufficient to weight the household data on a cross-sectional basis; that is, we only include households that contributed to the survey in the weights reference year, and we weight them to reflect the UK population
- each WAS round covers two years on a financial basis; we use the most recently available calendar year to weight the HCIs and scale the survey weights accordingly; annual weights for the historical data have been derived by joining successive WAS waves and rounds together
- typically, the WAS dataset is only available on a biennial basis, which means that the lag in the expenditure used to construct weights is variable and, in years where the WAS is not published, it is necessary to carry forward the previous year's expenditure

The availability of variables and question loops can vary between waves and rounds, however, the calculation remains broadly consistent:

- for mail orders, the weighted sum of total monthly mail order repayments are scaled up to reflect payments across the whole year; this is then multiplied by the average interest rate for credit cards from the BoE website

- for overdrafts, the weighted sum of “households’ value of current accounts overdrawn” is calculated; this is then multiplied by the average interest rate for overdrafts from the BoE website

- the “type of loan” variable is used to filter repayments into either a secured or an unsecured loan type; the standard instalment amount is then scaled up to give an annual total using “how often instalments are due”, and a weighted sum is used to derive population totals

- hire purchase repayments are derived in a similar way using “payment amount” and “frequency of payments”, and we omit cases where the purchase is interest-free using “whether hire purchase is interest-free”

Loans and hire purchase agreements are “amortised”; that is, they follow a fixed repayment schedule, where the interest part of the repayment decreases over time while the principal repayment increases. We therefore use a standard scaling factor of 0.1 to derive interest payment totals for loans and hire purchases, reflecting the average proportion of amortised repayments that are interest.

We are currently investigating more timely sources of interest repayment data.

Reconciling total domestic expenditure with household-level data

In order to construct household-level expenditure estimates that aggregate to the total domestic expenditures, we effectively “allocate” the expenditure totals for each class across the observed LCF households based on their reported expenditure.

We divide total domestic expenditure on each of the Classification of Individual Consumption According to Purpose (COICOP) classes among the households we observe in the LCF, in proportion to their expenditure share on that class-level category. These expenditure shares are calculated using weighted household spending, which ensures that the total expenditure is representative of the population rather than just the LCF sample.

Equation 1: formula for reconciling household expenditure with domestic totals

$$Expenditure_{h,c,y}^{HCI} = \frac{Expenditure_{h,c,y}^{LCF}}{\sum_h Expenditure_{h,c,y}^{LCF}} \times Expenditure_{c,y}^{CPIH}$$

where:

- $Expenditure_{h,c,y}^{HCI}$ is the HCI expenditure for household *h* on COICOP class *c* in year *y* (the expenditure is used for weights in the index year *y+2*)

- $Expenditure_{h,c,y}^{LCF}$ is the weighted total LCF expenditure for class *c* by household *h* in year *y*

- $Expenditure_{c,y}^{CPIH}$ is the total CPIH expenditure across all households on class *c* in year *y*

For example, if an observed household accounts for 0.05% of total purchases of bread and cereal products in the LCF, it is allocated the same fraction of the CPIH expenditure total on bread and cereal. This requires an important assumption: that where there are differences between the LCF and CPIH-consistent expenditure totals for a given COICOP, these differences arise because all households over- or under-report their expenditure by the same proportion.

Price uprating

Price uprating is applied to the reconciled household expenditures at the COICOP class level. Price uprating refers to the practice of re-expressing lagged expenditure data in base period prices. For more information on price uprating, please refer to our Higher-level aggregation and weights in consumer prices article.

Where the lag on interest on debt expenditure increases to three years, the base for the price uprating factor is adjusted to account for this.

Proxying expenditure

However, issues can arise when applying the reconciliation methodology. For example, the differences between total domestic expenditure and household-level expenditure totals can be large. There are also some instances where the coverage of the LCF data is low and, as a result, a large amount of total domestic expenditure is allocated to a small number of households for a particular class. For example, medical and paramedic services are a COICOP class where a very small number of households reported spending over the full dataset.

In these cases, we adjust our methodology to avoid distorting the results. For COICOP classes where both these two conditions are met:

- total domestic expenditure is more than double the total of the household-level expenditures
- the percentage of households that report spending on that COICOP class over the year is less than 20%

then spending on these COICOP classes is allocated using the reported proportion of household expenditure on a higher aggregate (group if available, or division or all-items level if not).

For example, if:

- an observed household accounts for 10% of total purchases of bread and cereals
- only 100 households in the sample of 5,000 have reported expenditure on bread and cereals, and
- total LCF expenditure on bread and cereals is only a quarter of the equivalent HHFCE total
- the same household accounts for 0.05% of total purchases on the higher-level group, food

then the same household is allocated 0.05% of the CPIH expenditure total for bread and cereals.

More generally:

Equation 2: formula for proxying expenditures from higher-level aggregates

$$Expenditure_{h,c,y}^{HCI} = \frac{Expenditure_{h,g,y}^{LCF}}{\sum_h Expenditure_{h,g,y}^{LCF}} \times Expenditure_{c,y}^{CPIH}$$

where:

- $Expenditure_{h,c,y}^{HCI}$ is the HCI expenditure for household *h* on COICOP class *c* in year *y* (the expenditure is used for weights in the index year *y+2*)
- $Expenditure_{h,g,y}^{LCF}$ is the weighted total LCF expenditure for COICOP group *g* by household *h* in year *y* (the formula applies equally for Division *g* or all-items *g*)
- $Expenditure_{c,y}^{CPIH}$ is the total CPIH expenditure across all households on class *c* in year *y*

Using this methodology requires the assumption that, for every household, spending on the higher-level aggregate is proportional to spending on the lower-level under-reported aggregate. This adjustment ensures that our methodology does not allocate very high levels of spending to a relatively small number of households, which in turn would distort the picture of household inflation.

Weights that are based on proxied expenditures are suppressed from the HCI publication tables.

Average household expenditure shares

The household-level expenditures calculated in the previous section are now used to derive “democratic weights” for each population grouping. This is achieved by calculating shares of expenditure for every household in the survey.

Equation 3: formula for calculating expenditure shares for household *h*

$$Expenditure\ Share_{h,c,y}^{HCI} = \frac{Expenditure_{h,c,y}^{HCI}}{\sum_c Expenditure_{h,c,y}^{HCI}}$$

So, for example, if a survey household has spent 0.1% of its total reported in-scope expenditure (based on allocated, price uprated and proxied expenditures) on bread and cereals, then its expenditure share for bread and cereals will be 0.0001.

For every population group in scope of the HCIs framework, the weighted average expenditure share is calculated for each COICOP class. This results in the HCI democratic weights, which are used in the aggregation process.

Equation 4: formula for calculating democratic weights

$$Democratic\ weight_{c,y}^{P} = \frac{w_{h,y}^{LCF} \times Expenditure\ Share_{h,c,y}^{HCI}}{\sum_{h \in P} w_{h,y}^{LCF}}$$

where:

- $w_{h,y}^{LCF}$ is the LCF survey weight for household *h* belonging to population group *P* in year *y*

Table 1 provides a stylised example for an expenditure survey of three households (HH). Reconciled COICOP expenditures for three classes are included for each of those three households.

Table 1: Stylised example of the democratic weight calculation

	Survey weight	Bread and cereals	Meat	…	Other services not elsewhere covered	Total expenditure
HH 1		20	50	…	10	2,000
HH 2		25	40	…	5	1,000
HH 3		15	30	…	30	3,000
HH 1	5	0.01	0.025	…	0.005	1
HH 2	3	0.025	0.04	…	0.005	1
HH 3	2	0.005	0.01	…	0.01	1
Democratic weight		13.5	26.5	…	0.6	1,000

Source: Consumer prices indices technical guidance from the Office for National Statistics

Household 1's expenditure share on bread and cereals is calculated by dividing their expenditure in this category by their total expenditure:

$$Bread\ and\ cereals\ expenditure\ share\ \ (HH1) = \frac{20}{2,000} = 0.01.$$

The overall democratic weight for bread and cereals is calculated by taking the weighted average of expenditure shares for this class:

$$Democratic\ weight\ \ (Bread\ and\ Cereals) = 1,000 \times \frac{5 \times 0.01 + 3 \times 0.025 + 2 \times 0.05}{10}$$
$$= 13.5\ parts\ per\ thousand.$$

Higher-level democratic weights in the COICOP hierarchy are derived by summing lower-level weights.

4 . The payments approach to measuring price change for debts and taxes

For several components, the Household Costs Indices (HCIs) measure price change when goods and services are paid for rather than when they are acquired, which is the approach typically used in consumer price inflation statistics. In practice, HCIs build on the data foundations of the Consumer Prices Index including owner occupiers' housing costs (CPIHs) by incorporating class-level indices for many of the same goods and services, particularly where there is little to no difference in timing between payment and acquisition (for example, a loaf of bread is usually likely to be paid for and acquired in the same reporting period).

In particular, we have adopted a payments approach for:

- owner occupiers' housing (OOH) costs, where the cost of paying for OOH services is broken down into components: mortgage interest payments, Stamp Duty and other land taxes, repairs and maintenance, dwelling insurance, ground rent, home-buyers' survey, house conveyancing and estate agents' fees

- education, where university tuition is often repaid through a student loan

- insurance, where we capture the full cost of insurance premiums (see Section 3, Data sources: total domestic expenditure); this only applies to the weights as the price index already captures gross insurance premiums

- interest on debt, where we include interest payments for a wider range of financial products

For more discussion on different timing approaches please refer to our Private rents and owner-occupier housing aggregates in consumer prices article.

A payments index

When measured on a payments basis, many components of the consumer prices inflation basket reflect how goods or services are paid for after the point of acquisition, for example, through a loan. A similar case occurs for payments of relevant taxes, such as Stamp Duty Land Tax, where a tax rate is applied to the purchase value of a house.

In both cases, we want to capture the change in payments made over time. Here the payment acts as a "pseudo" price, which is defined by applying a rate (an interest rate or a tax rate, for example) to a monetary amount of debt. Given the "fixed basket" principle that underpins our consumer price inflation statistics (for more information, please refer to our Scope and coverage of consumer prices indices article), we seek to determine a "fixed" amount of debt in the base period, which we use to apply the current rate to in subsequent months.

Broadly, we follow the approach described in the Consumer Price Index Manual: Theory and Practice (International Monetary Fund, 2004), which states that:

"Since the real value of any monetary amount of debt varies over time according to changes in the purchasing power of money, it is not appropriate to use the actual base period monetary value of debt in calculations for subsequent periods. Rather, it is necessary first to update that monetary value in each comparison period so that it remains constant in real terms (i.e. so that the quantities underpinning the base period amount are held constant). (Paragraph 10.27). "

Therefore, the payment *P* in month *t*, based on a stock of debt *i* in base period 0 is represented as:

Equation 5: formula for a payment in month *t*

$$P_i^{(t|0)} = D_i^0 \times I^{(0,t)} \times R_i^t$$

where

- D_i^0 is the stock of debt for *i* in the base period *0*

- is the general change in prices between the base period *0* and the current period *t* (reflecting the change in the purchasing power of money)

- R_i^t is the rate applied to debt *i* in the current period *t*

We can then define a Laspeyres-type index as:

Equation 6: formula to calculate a payments index

$$Payment\ index^{(0,t)} = \frac{\sum_i P_i^{(t|0)}}{\sum_i P_i^0} = \frac{\sum_i \left(D_i^0 \times I^{(0,t)} \times R_i^t\right)}{\sum_i \left(D_i^0 \times I^{(0,0)} \times R_i^0\right)}.$$

Note that it is not necessary to include a quantity term Q_i^0 because each stock of debt *i* to which R_i^t is applied is unique. In other words, $Q_i^0=1$ for all *i*.

This formulation should not be interpreted as being a Dutot index, which assumes that $Q_i^0=1$ for all *i*. This assumption implicitly leads to price changes for items with a relatively higher base price having a greater weight in the calculation. With the payments index it is correct that larger payments in the base period should have a larger weight because they reflect the reality that these repayments are a higher proportion of consumer spending on interest.

In practice, it is necessary to implement the international guidance in different ways for different components of the basket. In the following sections we described how the following components are calculated using a payments approach:

- mortgage interest payments,
- Stamp Duty,
- interest on debt, and
- university tuition costs.

Mortgage interest payments

Mortgage interest payments in HCIs are calculated using the Retail Prices Index (RPI) model, which estimates interest due on a representative stock of mortgages for an average household. (More information in this approach is described in our Calculating the Retail Prices Index article).

The RPI calculation results in an average mortgage debt for owner occupier households with a mortgage, who have lived at the same address for 23 years or fewer. Every month, a forecast of the UK House Price Index (UKHPI) is used to roll the debt stock on to reflect the most recent 23-month period.

The resulting debt stock is then multiplied by the average effective mortgage interest rate in the current period.

Stamp Duty Land Tax and other land taxes

Stamp Duty Land Tax (SDLT) and similar property taxes in the devolved governments are treated as a one-off payment recorded at the time of transaction.

SDLT in England is a marginal tax rate; that is, the value of the property is divided into “bands” and a different tax rate applies separately to each band. The banding process is described in more detail on the GOV.UK website.

For example, a house that has sold for £300,000 would have the first £125,000 untaxed, the portion up to £250,000 taxed at 2% and the last £50,000 taxed at 5% (based on tax rates in April 2026). This would result in a Stamp Duty payment of:

$$125,000 * 0 + (250,000 - 125,001) * 0.02 + (300,000 - 250,001) * 0.05 = £4,999.93.$$

This leads to a restructuring of Equation 5 as follows:

Equation 7: formula for calculating Stamp Duty payments in month *t*

$$P_i^{(t|0)} = \sum_b \left(House\ price\ band_{i,b}^{(t|0)} \times Tax\ rate_b^t\right)$$

where:

- *House price band* $_{i,b}^{(t|0)}$ is the value of the property between thresholds *b-1* and *b*, and $\sum_b House\ price\ band_{i,b}^{(t|0)} = House\ price_i^0 \times UKHPI_i^{(0,t)}$, which is the value of property *i*, sold in the base period *0*, revalued at period *t* prices

- *Tax rate*$_b^t$ is the tax rate that applies to *House price*$_{i,b}^0$

- the factor *UKHPI*$_i^{(0,t)}$ is incorporated by applying the model used to produce the UKHPI for period *t* to the property *i* in the "fixed basket"

So, using the previous example, if the UKHPI valued the same property at £310,000 in month t, then the Stamp Duty payment in month *t* would become:
$125,000 * 0 + (250,000 - 125.001) * 0.02 + (310,000 - 250,001) * 0.05 = £6,499.93.$

The index can therefore be formed as:

Equation 8: formula for calculating the Stamp Duty land tax and other land taxes index

$$SDLT\ index^{(0,t)} = \frac{\sum_i P_i^{(t|0)}}{\sum_i P_i^0}.$$

The data used for *House price*$_i^0$ are the properties in the UKHPI basket from Quarter 4 (October to December) of the previous year, valued at January prices. Tax rates are taken directly from the GOV.UK website.

In the devolved governments, Land Transaction Tax in Wales and Land and Buildings Transaction Tax in Scotland are applied in the same way as SDLT. Separate indices are constructed for each nation and aggregated using UKHPI weights to form the overall Stamp Duty index.

For more information on the data sources and methodology for the UK House Prices Index, please refer to About the UK House Price Index, published on the GOV.UK website.

Interest on debt

HCIs include interest on credit (for example, credit cards, loans) as a current cost. The method estimates household payments using aggregate financial data and uprates past debt by a proxy price index This reflects the principle that households pay for financed consumption later, and interest costs rise with both rates and outstanding balances.

The method used to produce the interest on debt index is the "Simple Revaluation Approach". This is used internationally for similar indexes; for example, by Statistics New Zealand in their Household Living-costs Price Indexes, and by Statistics Canada in the mortgage interest component of their measure of owner occupiers' housing costs. The method was implemented for the UK HCIs following discussion with the Technical Advisory Panel on Consumer Prices in May 2017. Statistics New Zealand's implementation of this is described as follows:

"With interest payments, it is difficult to precisely pinpoint the underlying quality and quantity that should remain fixed. International practice is to fix the underlying quantity of debt by multiplying changes in interest rates by a suitable debt (price) index. This can be either a simple revaluation or the debt-profile approach – a more sophisticated method that also accounts for the age of the debt."

For interest on consumer debt, borrowing is based on a wide range of consumption goods, so the all-items inflation rate is used for indexation. This is the same approach that is used for the UK's HCIs.

Equation 9: formula for the simple revaluation index

$$Simple\ revaluation\ index^{(0,t)} = \frac{\bar{P}^{(t|0)}}{\bar{P}^0} \approx \frac{D^0 \times CPIH_{t,2015} \times Average\ interest\ rate^t}{D^0 \times CPIH_{0,2015} \times Average\ interest\ rate^0}$$

where:

- D^0 is the total stock of debt in the base period *0*; this term cancels out
- $CPIH_{t,2015}$ is CPIH for period *t* referenced to 2015 equals 100, which represents the general change in prices
- $Average\ interest\ rate^t$ is the average interest rate in period *t*

For the HCIs, a class-level costs index for interest on debt as a whole is obtained by combining the relative weights and indices of four categories:

- secured loans
- unsecured loans
- credit cards and mail orders
- overdrafts

(please refer to our Higher-level aggregation and weights in consumer prices article).

The interest rates used are based on average interest rate series published on the Bank of England website. For indexation, borrowing is based on a wide range of consumption goods, so the all-items CPIH inflation rate is used.

A worked example follows.

Based on the interest rate series CFMZ6IR, the average credit card interest rate was 21.85 in January 2025 and 21.45 in April 2025. Based on Table 37 in the Consumer Price Inflation reference tables, the CPIH for January 2025 was 135.050 and for April 2025 it was 137.712. Therefore:

$$Credit\ card\ interest\ index^{(Jan25,Apr25)} = \frac{137.712 \times 21.45}{135.050 \times 21.85} = 100.104.$$

Stratum weights are calculated using a combination of LCF data (for credit card interest) and Wealth and Assets Survey (WAS) data for other components.

University education – student loan repayments and tuition fees paid upfront

Under a payments concept, HCIs capture both upfront tuition fees when paid and student loan repayments (income-contingent). This latter treatment reflects the scheme's tax-like nature – repayments depend on earnings rather than outstanding principal – and aligns with the payments principle. Conceptually, this requires recognising that education costs are spread over time and linked to income, reinforcing the need to compare HCIs with income measures.

The student loan repayments index is currently based on Plan 1 loans only. At the time of introduction, this loan type reflected the majority of total repayments. As future work, we intend to update the index to reflect the broader range of future loan types. Under this repayment plan, a rate is applied to earnings over a defined income threshold, rather than to the debt directly. In line with Equation 5, for period *t* we therefore set:

Equation 10: application of the student loans repayment threshold to the debt term in the payment calculation

$$D_i^0 = Income_i^0 - Threshold^t$$

where:

- $Income_i^0$ is the income earned by person *i* in the base period *0* (for the subset of incomes greater than T^t)
- $Threshold^t$ is the threshold on income that applies in period *t*

We also set $I^{(0,t)}$ = 1 in Equation 6. The student loan repayments index is therefore calculated as:

Equation 11: formula for calculating the student loan repayments index

$$Student\ loan\ repayments\ index^{(0,t)} = \frac{\sum_i P_i^{(t|0)}}{\sum_i P_i^0}$$
$$= \frac{\sum_i \left(Income_i^0 - Threshold^t\right) \times Repayment\ rate^t}{\sum_i \left(Income_i^0 - Threshold^0\right) \times Repayment\ rate^0}$$

where:

- *Repayment rate* ^{t} is the proportion of income repaid over the threshold

For example, consider a person *i* with an annual salary of £40,000 in January 2025. The repayment threshold increased from £24,490 to £26,065 in April 2025 and the taxable amount remained at 9%:
$Repayment_i^0 = (40,000 - 24,490) \times 0.09 = 1,395.90$

and
$Repayment_i^t = (40,000 - 26,065) \times 0.09 = 1,254.15.$

This reflects a 10.2% decrease in repayments for person *i*. As a general rule, whether student loan repayments increase or decrease depends on whether the growth in income or the repayment threshold is stronger, and the size of base period incomes relative to the repayment threshold.

The calculation allows for the fact that a person whose income was below the threshold in January, and above the threshold after it changes in April, would experience an increase in costs, since payments before April would be captured as £0.00.

The income data for $Income_i^0$ are taken from the Labour Force Survey for the first quarter of each index year. Incomes are based on annual salaries less bonuses for employees with a higher education qualification. Survey weights are incorporated into the calculation so that repayment estimates reflect population totals.

The price index for UK tuition fees paid upfront is based on the CPIH index 440239 University tuition fees UK.

The payments items, Student loan repayments and Tuition fees paid upfront, are aggregated together with the other CPIH education indices 440230 University tuition fees for international students, 440238 Private school fees, and 440243 Part-time education classes. The stratum weights for these three CPIH items are rescaled relative to the weight of the payments items.

The calculation of stratum weights for payments items is as described in Section 3, Data sources: total domestic expenditure.

5 . Other indices

Household Costs Indices (HCIs) use Consumer Prices Index including owner occupiers' housing costs (CPIH) indices for most of the basket, including food, clothing, transport, and many services categories. CPIH also provides the basis for much of education, insurance, and repairs and maintenance. However, HCIs incorporate additional indices for owner occupiers' housing (OOH) and rental costs.

Beyond mortgage interest payments, and Stamp Duty and other land taxes (described in Section 4, The payments approach to measuring price change for debts and taxes), HCIs draw on pre-existing indices to capture the remaining components of a payments measure of OOH. These are excluded from CPIH, which includes OOH on a use-based approach (rental equivalence) instead.

Repair and maintenance of the dwelling

For the HCIs' "Repairs and maintenance index", the CPIH "regular repairs and maintenance of the dwelling" index is used. In practice, this simply means that the expenditure used to weight this index is larger in HCIs than it is in CPIH, to account for the additional element of "major" repairs and maintenance.

Since major repairs and maintenance refers to large, irregular expenditures for the upkeep of the home, it is difficult to accurately capture price changes. The "Regular repair and maintenance of the dwelling" index therefore serves as a proxy for these costs.

Other OOH indices

The remaining other OOH indices in the HCIs draw on Retail Prices Index (RPI)-derived indices that are consistent with the payments approach. For more information on these indices please refer to our Calculating the Retail Prices Index article. These include:

- dwelling insurance, which represents premiums paid by households to insure the physical structure of the dwelling against risks such as damage or destruction
- ground rent, which covers charges paid by leaseholders for the land on which their property stands
- home buyers' survey
- house conveyancing
- estate agents' fees

While contents insurance is included in the scope of the CPI and CPIH, dwelling insurance is not included. However, in line with the payments approach to OOH, dwelling insurance is included in the HCIs. In line with other insurance items, it is treated on a gross premiums basis, meaning the full insurance premium paid by households is captured by the price index, with no deduction for claims paid (see Section 3, Data sources: total domestic expenditure). This reflects the payments principle under which housing costs are measured using actual household cash outlays rather than net or imputed values.

While the other OOH indices are consistent with the RPI methodology, they do not rely on the Carli methodology (for more information, see our Traditional data aggregates in consumer prices article), and so we do not consider there to be any significant bias because of the formula used. For the dwelling insurance index, a geometric mean variant of the RPI method, which does rely on the Carli index, is used.

Rental indices

HCIs use CPIH rental price indices as the basis for measuring rental inflation, but apply an explicit tenure-based aggregation adjustment to ensure that rental payments are represented appropriately within subgroup breakdowns. While CPIH publishes a single "actual rentals" index reflecting various different types of rental prices, the HCIs distinguish between private, and social and other rental payments, to better reflect the different rent-setting mechanisms and expenditure patterns faced by households.

This distinction is important because households in subsidised (social) housing do not face private market rents, and combining the two without adjustment can misrepresent rental cost pressures for specific household groups.

The HCIs therefore include three different Classification of Individual Consumption by Purpose (COICOP) classes for rents.

Private rental payments

Private rental payments reflect market-based rents paid by households in the private rented sector. The price index is described in more detail in our Private rents and owner-occupier housing aggregates in consumer prices article. It is based on rental price data collected by the Valuation Office Agency and equivalent bodies in the devolved governments. The indices capture changes in rents paid for privately rented dwellings, net of quality change.

Social and other rental payments

Social rental payments cover rents paid to local authorities, housing associations and registered social landlords. These rents are typically administratively set and evolve differently from private market rents, reflecting policy decisions and regulatory frameworks rather than market pressures alone. As a result, a separate price index is required to capture inflation experienced by social renters accurately. The price index is aggregated from the relevant CPIH item indices and weights.

UK self-catering holidays

The CPIH “actual rentals” aggregate also includes UK self catering holidays. As both private renters, and social and other renters may incur this type of expenditure, it is identified as a separate COICOP class.

By separating rental indices in this way, HCIs avoid price changes for private rentals influencing the inflation rate for social and other renters, and social and other rentals influencing the rate for private renters. This provides a more representative measure of housing cost inflation across different household tenures.

6 . Construction of inflation rates for household subgroups

As described in Section 2, What the Household Costs Indices aim to measure, the Household Costs Indices (HCIs) aim to reflect the inflation experience of different household groups. An important part of this aim is the focus on inflation rates for different subgroups of the population. We publish subgroups for the following breakdowns.

Subgroup breakdowns

Disposable income

Disposable income is the money available for spending after taxes. It includes earnings from work, self-employment, pensions, investments and benefits.

Households are divided into 10 groups (deciles) based on their disposable income, with decile 10 being the highest and decile 1 the lowest. The second and ninth deciles are more stable and may be useful for analysis.

Tenure type

Households are assigned to one of four tenure types:

- outright owner occupier households are defined as any household in which the residents own the property outright and use it as their primary or non-primary residence
- mortgagor and other owner occupier households are defined as any household that is buying their primary or non-primary residence property with a mortgage, or own part of the property (for example, paying both rent and mortgage)
- private renter households are defined as any household that rents their property from a private sector landlord; it excludes households who live in their property rent-free
- social and other renter households are defined as any household that rents their property from a council or a registered social landlord or lives in their property rent-free

Retired households

A retired person is defined as anyone who describes themselves in the Living Costs and Food (LCF) Survey as “retired” or anyone over minimum National Insurance pension age describing themselves as “unoccupied” or “sick or injured but not intending to seek work”. A retired household is defined as one where the combined income of retired members amounts to at least half the total gross income of the household.

Households with children

A child is defined as any person aged under 16 years. People who are aged under 18 years and unmarried are also classed as children for the purposes of the Family spending report, as described in our LCF Survey methodology. A household is classified as a household with children if at least one member of the household is a child.

Subgroup weights

The construction of subgroup inflation rates relies on the construction of democratic weights for every subgroup. The calculation of democratic weights is described in Section 3, Democratic weights. For subgroup-level weights, we use filter variables in the LCF dataset to calculate democratic weights from the subset of households that belong to the relevant subgroup. The filter variables that we use are consistent with the household disposable income measure, published in our Average household income, UK bulletin.

Aggregation

To calculate the inflation rates for each household group, unrounded class-level price indices for each month are taken from the CPIH. Out of scope CPIH items are removed (410116 to 410120 “Imputed rents” by nation), while the payments indices described in Sections 5 and 6 are included in the calculation.

Note that because class-level indices are used, there is a degree of plutocratic weighting involved in the lower-level aggregation. Implicitly this assumes that within a class, all households spend in similar proportions. Survey sample sizes generally do not support the calculation of democratic weights below class.

Indices are combined with the appropriate democratic weights to produce an aggregate price index. The resulting indices are double chain-linked; first in January, which accounts for the annual changes in the COICOP weights for the class, group- and division-level products. A further chaining step, to account for changes in the basket of representative items – the goods and services that are aggregated up to form the class-level of CPIH – occurs in February.

For more information about these processes, please see our Higher-level aggregation and weights in consumer prices article.

Limitations and further research

Ideally, this approach would be combined with household-specific price indices, allowing both the weights and the price changes to reflect household-level experience. However, household-specific price indices are not currently available because price data are collected from retailers rather than from households.

The absence of household-specific price indices is a significant limitation. Research based on data from the US suggests that ignoring variation in prices paid for similar goods can underestimate the dispersion of inflation rates across households by as much as two-thirds in some contexts (Kaplan and Schulhofer-Wohl, Inflation at the household level, Journey of Monetary Economics, 2017). While this effect is likely smaller in the UK, it remains important. Work by the University of Strathclyde, Randolph and others, Improving price level data for different household groups, 2024 has highlighted this issue and explored options for improvement, including linking scanner data to household characteristics and enhancing survey methods to collect more granular price information. These developments would allow future versions of HCIs to better reflect differences in both consumption patterns and prices paid across household groups.

7 . Definitions

Aggregates

Aggregates (or “strata”) are classifications into which the raw data can be separated. The strata “region” and “shop type” within item are generally used for the Consumer Prices Index including owner occupiers’ housing costs (CPIH), Consumer Prices Index (CPI), Retail Prices Index (RPI) and the Household Costs Indices (HCIs). The data within each stratum are combined, and the resulting indices for each of the strata are then combined using stratum weights.

All-items index

An index that is constructed using price indices that represent every type of expenditure within the scope of the consumer price statistic. It is an average measure of the change in the prices of goods and services bought for the purpose of consumption in the UK.

Base prices

Our index methods measure price change between two months: the base month and the current month. Base prices are the prices that are used to represent the price of a product in the base month. This representative price may be a single sampled price, or an average of many different prices.

Basket

A convenient way to understand the nature of consumer price inflation statistics is to envisage a very large shopping basket comprising all the different kinds of goods and services bought by a typical household. As the prices of individual items in this basket vary, the total cost of the basket will also vary – consumer price statistics measure the change from month to month in this total cost.

Carli index

In line with international best practice, we consider the use of Carli to be inappropriate. The Carli index is an unweighted index number formula, which is the arithmetic mean of price relatives.

Chain-linking

A “chain-link” is the mechanism we use for connecting indices with different baskets or weights. The calculation relies on a link period (December and January in CPI, CPIH and the HCIs). Subsequent index movements are “chained” to this link period by multiplication.

Class

In the CPIH, the CPI and the HCIs, all categories of expenditure on which significant amounts of money are spent are arranged into 12 divisions, which are subdivided into groups and then into classes. Examples of classes are bread and cereals, water supply, and transport insurance. We publish price indices for each class.

Coverage

Those transactions that can be identified and measured in practice. This is determined by the expenditure categories for which weights are compiled.

Current price

Our index methods measure price change between two months: the base month and the current month. Current prices are the prices that are used to represent the price of a product in the current month. This representative price may be a single sampled price, or an average of many different prices.

Democratic weights

The weight of each component in the “fixed basket” is based on the average household’s share of expenditure. So, if each household had equal weight in the calculations, then the weights would be democratic. Democratic weights are used in the calculation of the HCIs.

Division

In the CPIH, CPI and HCIs, all categories of expenditure on which significant amounts of money are spent are arranged into 12 divisions, such as clothing and footwear, transport, and recreation and culture. We publish price indices for each division.

Dutot index

An unweighted index number formula, which is the ratio of average prices.

Elementary aggregates

The set of indices calculated at the very first stage of aggregation.

Group

In the CPIH and CPI, all categories of expenditure on which significant amounts of money are spent are arranged into 12 divisions, which are subdivided into groups. Examples of groups are food, postal services and insurance.

In the Retail Prices Index (RPI), all categories of expenditure on which significant amounts of money are spent are arranged into 14 groups, such as food, housing and motoring costs.

Inflation rate

The percentage change of a price index between two points in time. We typically refer to the annual inflation rate (comparing the current month with the same month a year earlier), or the monthly inflation rate (comparing the current month with the previous month). This term is usually used to mean the all-items inflation rate.

Items

Any type of consumer good or service that can be purchased, for example, apples. Several different varieties of that item may be available, for example, Granny Smith and Braeburn apples.

Jevons index

An unweighted index number formula, which is the geometric mean of price relatives.

Laspeyres index

A base-weighted index, where the prices are combined using weights derived from data from the base period.

Laspeyres-type index

A fixed base weight index, such as the CPIH, CPI, RPI, or HCIs that has the basic characteristics of a Laspeyres Index. It is the price of the basket at a given time, as a percentage of its price on the base date. The CPIH, CPI, RPI and HCIs are not true Laspeyres Indices, as the underlying quantities do not coincide with the base date, but is the most recent available 12 months.

Plutocratic weights

The weight of each component in the “fixed basket” is based on the total share of expenditure across all households in the UK. More weight is implicitly given to households who spend more. Plutocratic weights are used to calculate the CPI, CPIH and RPI.

Reference period

A price index expresses price levels at a given point in time as a percentage of the level at some previous date, known as the reference period. The level at the reference period is 100.

Scope

All transactions that one would ideally want to measure.

Traditional data

Prices that are manually collected through traditional sources (in-store, online and by phone). This applies to most areas of the consumer prices basket.

Weight

A factor by which a component is multiplied to reflect the level of consumers’ expenditure on that component.

8 . Related links

Consumer prices indices technical guidance
Methodology | Last revised 25 March 2026
How measures of consumer price inflation and associated indices are compiled.

Household Costs Indices for UK household groups
Bulletin | Released quarterly
Household Costs Indices, 12-month growth rates, expenditure shares, and contributions for UK household groups and all households.

Consumer price inflation, UK
Bulletin | Released monthly
Price indices, percentage changes, and weights for the different measures of consumer price inflation.

Private rent and house prices, UK
Bulletin | Released monthly
The Price Index of Private Rents (PIPR) measures private rent inflation for new and existing tenancies. The UK House Price Index (HPI) measures house price inflation.

9 . Cite this page

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