

Statistical bulletin

ONS household expenditure data insights into the effects of costs-of-living pressures: 4 December 2023

Insights into the impacts of a period of price increases and cost-of-living pressures, and behavioural response of consumers, using household expenditure data.

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Next release:
To be announced

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1. Main Points

- National aggregate household expenditure data are used to investigate cost-of-living effects on households resulting from the broad price increases over the period from Quarter 4 (Oct to Dec) 2021 to Quarter 2 (Apr to June) 2023.
- All categories of household expenditure saw large increases in current price terms (that is, nominal terms) over the period. By contrast, some categories of expenditure, for example, food and furnishings, saw a moderate decrease in volume terms (that is, real expenditure, with the effect of price increases removed) over the same period.
- There has been a fall in the quantity and/or quality of many items bought by households, but increasing prices mean that the overall nominal value of household spending has risen sharply.
- The divergence between price (current price (CP), nominal) and volume (chained volume measure (CVM), real) measures of household expenditure is the most marked since at least the 1980's, reflecting the unusually sharp increases in prices of most household goods and services, including energy and food, during this cost-of-living period.
- In volume terms (CVM, real terms), household expenditure on items considered discretionary has decreased marginally over the cost-of-living period.
- The observed fall in discretionary expenditure is smaller than might be expected, given significant costpressures facing households; this is perhaps in part because prices of discretionary items have risen less rapidly than prices of non-discretionary items.

2. Overview

The period from late 2021 to 2023 has been one of increasing prices, caused principally by a combination of:

- economic recovery from the coronavirus (COVID-19) pandemic and subsequent supply chain constraints
- sharp increases in both food and energy prices, following Russia's invasion of Ukraine

The inflation rate in this period has reached 30-year highs, as seen in the <u>Consumer Price Index (CPI) time series</u>, and price rises have affected almost all goods and services. This has resulted in cost-of-living impacts for many households. The varying impact of increasing cost-of-living pressures across different household subgroups (for example, by income deciles, tenure types and retirement status), is explored in our new quarterly bulletin <u>Household Costs Indices for UK household groups</u>.

We have published analysis on the groups of the population that report being affected by recent cost-of-living pressures, together with characteristics associated with financial resilience, in our article: Impact of increased cost of living on adults across Great Britain: July to October 2023.

Weekly household expenditure by household type is also reported annually in our <u>Family spending in the UK:</u> <u>April 2021 to March 2022</u> publication. Derived from survey data, it is our principal micro dataset that provides insight into consumer expenditure at a household level, and can show differing expenditure behaviour by household type and characteristic.

This article, by contrast, uses our published macro data from <u>Consumer trends, UK: April to June 2023</u> to derive insight into cost-of-living pressures, and associated changes in consumer behaviour, at an aggregate, UK-wide economy level.

We use the Consumer trends quarterly household final consumption data from Quarter 4 (Oct to Dec) 2021 to Quarter 2 (Apr to June) 2023 (referred to subsequently as the 'cost-of-living period') to provide insight into changes in consumer behaviour patterns across the period with the largest price increases.

As is typically the case with our economic data time-series, the Consumer trends publication contains two measures of national household expenditure:

- price measure (current price, CP series) in nominal terms
- volume measure (chained volume measure, CVM series) in real terms, with the effects of price and quality changes removed (further explanation of these terms can be found in the Consumer trends publication).

These two measures considered together can offer insight into changes in consumers spending behaviour.

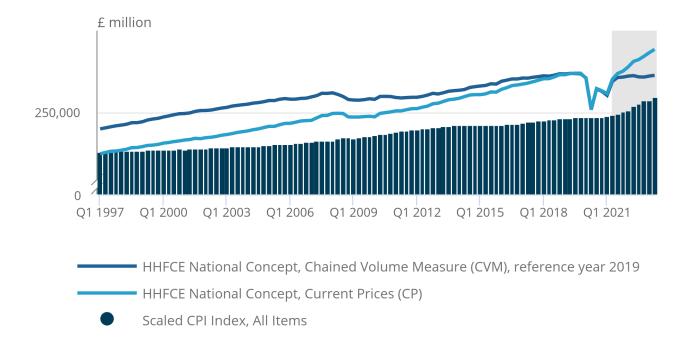
3. Cost-of-living impacts on total household expenditure

Figure 1: National expenditure

UK, Quarter 1 (Jan to Mar) 1997 to Quarter 2 (Apr to June) 2023, seasonally adjusted

Figure 1: National expenditure

UK, Quarter 1 (Jan to Mar) 1997 to Quarter 2 (Apr to June) 2023, seasonally adjusted



Source: Consumer trends and Consumer Price Index published data from the Office for National Statistics

Notes:

- 1. Current price (CP) and chained volume measure (CVM).
- 2. Box highlights the cost-of-living period.
- 3. The CPI index has been scaled for plotting in this figure, to qualitatively illustrate changes in price levels over the time period.

The measures behave in a similar manner to each other prior to the dip caused by the coronavirus (COVID-19) pandemic in 2020, before sharply diverging during the cost-of-living period from Quarter 4 (Oct to Dec) 2021 onwards.

This divergence corresponds to the start of the sharp price increases, as seen in the steep growth in our Consumer Prices Index (CPI). The CP nominal expenditure grew steeply over the cost-of-living period. By contrast, the CVM real expenditure remained broadly level through the period. Such periods of slow or falling growth in CVM real household expenditure are infrequent, last occurring to a similar degree after the financial crisis in 2008.

4. Cost-of-living expenditure impacts by expenditure type

Consumer trends breaks household expenditure down by using 'Classification of individual consumption by purpose' (COICOP) categories. COICOP is an international classification system consistent with that used in UK National Accounts (see, for example, our Consumer trends QMI for details on COICOP classification).

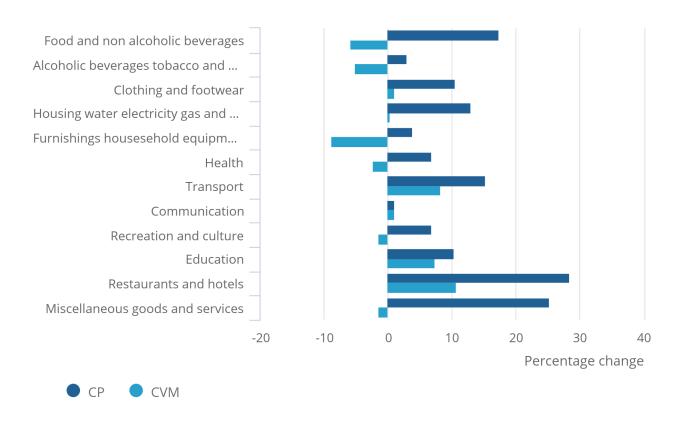
Figure 2 shows the growth in current price (CP) or chained volume measure (CVM) household expenditure between the start and end of the cost-of-living period, by COICOP expenditure category.

Figure 2: Growth in total national household expenditure

UK, Quarter 4 (Oct to Dec) 2021 to Quarter 2 (Apr to June) 2023, seasonally adjusted, 2-digit COICOP category

Figure 2: Growth in total national household expenditure

UK, Quarter 4 (Oct to Dec) 2021 to Quarter 2 (Apr to June) 2023, seasonally adjusted, 2-digit COICOP category



Source: Consumer trends published data from the Office for National Statistics

Notes:

1. Current price (CP) and chained volume measure (CVM).

Unsurprisingly, given the broad nature of the price increases, all COICOP expenditure categories showed increases in CP household expenditure over the analysis period. That is, households spent more in cash terms on every type of good and services at the end of period than the start.

By contrast, CVM household expenditure growth over the cost-of-living period was variable, with some COICOP expenditure categories showing increases (for example 'restaurants and hotels'), while some showed decreases (for example, 'food and non-alcoholic beverages', and 'furnishings').

This difference between CP and CVM growth rates across COICOP expenditure categories gives insight into consumer behaviour changes in a period of cost-of-living pressures. In some - although not all - areas of consumer expenditure, households on average bought a smaller volume of goods and/or bought goods of lower quality at the end of the period than the start.

5. Expenditure on 'food and non-alcoholic beverages'

Large increases in food prices were a significant driver of the headline 'Consumer Prices Index (CPI)' inflation rate during the cost-of-living period Consumer price inflation, UK: October 2023, and have been a correspondingly large contributor to the cost-of-living pressure on households.

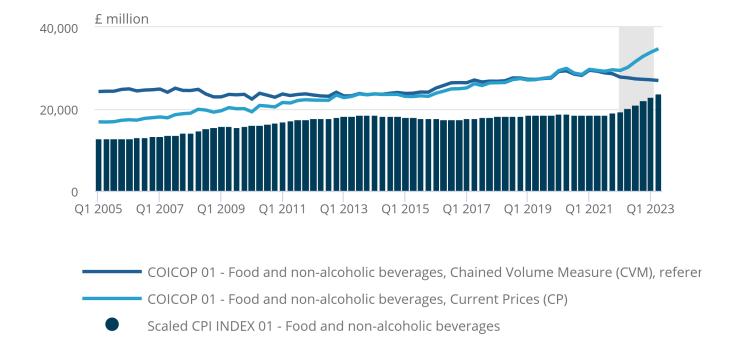
Figure 3 shows household expenditure on food and drink (Classification of individual consumption by purpose (COICOP) 01), again for both current price (CP) and chained volume measure (CVM) real expenditure.

Figure 3: Household expenditure on food and non-alcoholic beverages

UK, Quarter 1 (Jan to Mar) 2005 to Quarter 2 (Apr to June) 2023, seasonally adjusted

Figure 3: Household expenditure on food and non-alcoholic beverages

UK, Quarter 1 (Jan to Mar) 2005 to Quarter 2 (Apr to June) 2023, seasonally adjusted



Source: Consumer trends published data from the Office for National Statistics

Notes:

- 1. Current price (CP) and chained volume measure (CVM).
- 2. Box highlights the cost of living period.
- 3. The CPI index has been scaled for plotting in this figure, to qualitatively illustrate changes in price levels over the time period.

It is interesting to note the spikes in household expenditure on food in 2020 and 2021 (both in real and nominal terms). These are considered to be because of the coronavirus (COVID-19) lockdowns, when food spending in other forms (such as eating out) was restricted, and contrast to the "coronavirus dips" seen in the total expenditure series.

From the start of the cost-of-living period from Quarter 4 (Oct to Dec) 2021 onwards, a significant divergence between the CP and CVM measures of household expenditure on food occurs.

CP food expenditure increased sharply by £5.1 billion, or 17.4%, over the cost-of-living period. All food and non-alcoholic beverages sub-categories saw an increase in CP expenditure. By contrast, the CVM expenditure on food fell by 5.8% over the period. The implication is that households increasingly changed their behaviour, consuming less food or switching to food of lower quality, while spending more in cash terms.

The fall in CVM expenditure on food is a further example of the cost-of-living pressures faced by households. A decrease in the volume of food spending is a relatively unusual change in consumer behaviour, again last seen to a lesser degree after the financial crisis of 2008 to 2009.

These observations agree with findings published in our Family spending in the UK publication, which showed that, after taking inflation into account, household spending on food and non-alcoholic beverages dropped in the financial year ending (FYE) 2022 compared with FYE 2021 and FYE 2020. Falls in households' real expenditure on food during the cost-of-living period is also consistent with findings from our Retail Sales Index (RSI) dataset.

6. Expenditure on energy

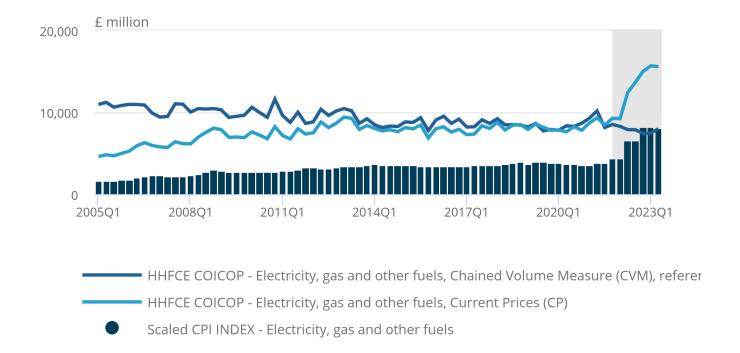
Large increases in energy prices (especially electricity and gas) were another major feature of the cost-of-living period and another significant driver of the headline Consumer Prices Index (CPI) inflation rates. Figure 4 shows household expenditure on electricity and gas (Classification of individual consumption by purpose (COICOP) category 04.5), again for both current price (CP) and chained volume measure (CVM) expenditure measures.

Figure 4: Household expenditure on electricity, gas and other fuels

UK, Quarter 1 (Jan to Mar) 2005 to Quarter 2 (Apr to June) 2023, seasonally adjusted

Figure 4: Household expenditure on electricity, gas and other fuels

UK, Quarter 1 (Jan to Mar) 2005 to Quarter 2 (Apr to June) 2023, seasonally adjusted



Source: Consumer trends published data from the Office for National Statistics

Notes:

- 1. Current price (CP) and chained volume measure (CVM).
- 2. Box highlights the cost of living period.
- 3. The CPI index has been scaled for plotting in this figure, to qualitatively illustrate changes in price levels over the time period.

There were large increases in energy prices over the cost-of-living period, as seen in the CPI index for energy, which increased by 87%.

As with food expenditure, CP household expenditure on electricity, gas and other fuels increased sharply over the cost-of-living period. Across the period, there was an increase in CP expenditure of £6.3 billion, or 68% (the small decrease in CP expenditure in Quarter 2 (Apr to June) 2023 is attributed to falls in energy wholesale prices and the Office of Gas and Electricity Markets (OFGEM) energy cap).

By contrast, over the period there was a fall in CVM expenditure of 6.8%. The sharp divergence between the paths of CP and CVM expenditure on energy, as was the case with food, again shows the impact of cost-of-living pressures on households.

7. Discretionary and non-discretionary expenditure

Further insight into the cost-of-living pressures, and households' responses to those pressures, can be gained by exploring which categories of household expenditure might be considered discretionary.

Using the same Classification of individual consumption by purpose (COICOP) classification split as used in a previous article (Inflation rates for discretionary and non-discretionary spending), we allocate all household consumer expenditure into either a "discretionary" or "non-discretionary" category. The lists of discretionary and non-discretionary COICOP items are in Section 11: Classification of individual consumption by purpose categories, discretionary and non-discretionary.

Non-discretionary expenditure is defined as: "Goods or services which are purchased because they meet a basic need (food, shelter, healthcare), are required to maintain current living arrangements (car maintenance, school fees), or are a legal obligation (compulsory insurance, Stamp Duty)."

Household expenditure on these goods and services is known to be relatively unresponsive to changes in household wealth and income, or to changes in the relative prices of goods or services.

Discretionary expenditure is then defined as the remaining expenditure items: "Goods or services which could be considered "optional" purchases, for example, takeaway meals, alcohol and holidays."

Household expenditure on these goods and services is known to be relatively more responsive to changes in household wealth and income, or changes in relative prices.

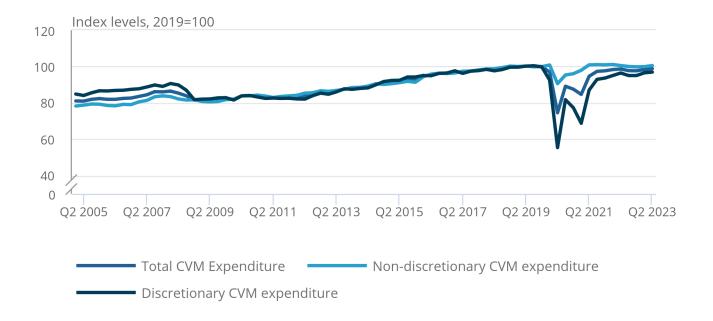
Figure 5 shows levels of discretionary and non-discretionary expenditure in chained volume measure (CVM) terms, alongside the total CVM measure expenditure for comparison.

Figure 5: Household expenditure, total, discretionary and non-discretionary expenditure

UK, Quarter 1 (Jan to Mar) 2005 to Quarter 2 (Apr to June) 2023, seasonally adjusted, chained volume measure

Figure 5: Household expenditure, total, discretionary and nondiscretionary expenditure

UK, Quarter 1 (Jan to Mar) 2005 to Quarter 2 (Apr to June) 2023, seasonally adjusted, chained volume measure



Source: Consumer trends published data from the Office for National Statistics

There is an observed divergence between the discretionary and non-discretionary CVM expenditure in the coronavirus (COVID-19) and subsequent cost-of-living periods, following the 'coronavirus dip', although this is smaller than might be expected, given the demonstrated cost-of-living pressures.

Of course, these observed impacts are average effects because of the macro data used in this study, and there is expected to be variation in how households change their expenditure patterns on discretionary items, for example, by household type and income. The data used offers limited insight at a household level, but provides the economic context for other analysis and datasets, which do explore expenditure at a sub-population level. Where expenditure patterns do vary across the income distribution, we have other datasets (for example, Family spending in the UK), which can provide additional understanding (although discretionary and non-discretionary classifications have not to date been applied in Family spending in the UK).

8. Implied deflators

Current price (CP) and chained volume measure (CVM) expenditure are linked by the expenditure implied deflator (IDEF). This is calculated by dividing the price (CP) nominal expenditure series by the associated volume (CVM) series (see <u>Deflators and how we use them in economic estimates</u>). The expenditure implied deflator shows the changes in the average prices of goods and services in the expenditure data and is comparable with Consumer Prices Index (CPI)

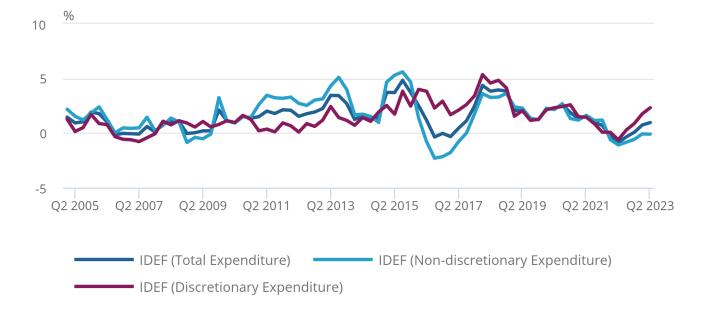
Figure 6 shows the expenditure IDEF growth rates (quarter on quarter of previous year), calculated for both the total, discretionary and non-discretionary categories of household expenditure.

Figure 6: Expenditure implied deflator (IDEF)

UK, Quarter 1 (Jan to Mar) 2005 to Quarter 2 (Apr to June) 2023, quarter on quarter of previous year growth: total, discretionary and non-discretionary expenditure

Figure 6: Expenditure implied deflator (IDEF)

UK, Quarter 1 (Jan to Mar) 2005 to Quarter 2 (Apr to June) 2023, quarter on quarter of previous year growth: total, discretionary and non-discretionary expenditure



Source: Consumer trends published data from the Office for National Statistics

Over the cost-of-living period, there is a clear divergence in the non-discretionary and discretionary expenditure IDEF growth rates, with average prices of non-discretionary items seen to increase faster than average prices of discretionary items.

This differential in discretionary and non-discretionary price increases over the cost-of-living period, compared with the more moderate divergence in the discretionary and non-discretionary CVM expenditure seen in Figure 5, may help to explain why the decrease in discretionary expenditure in the cost-of-living period is not as large as expected.

9. Impact of household saving

The impacts of price increases and associated cost-of-living pressures are complex, with differential impacts across the income distribution. There are other factors that are likely to have played a part in consumers changing their behaviour in relation to their expenditure on discretionary items.

One commonly cited hypothesis is that during the coronavirus (COVID-19) pandemic, many households were in a position to save more, because of many discretionary activities being unavailable or limited during the lockdown periods (for example, eating in restaurants, travelling overseas).

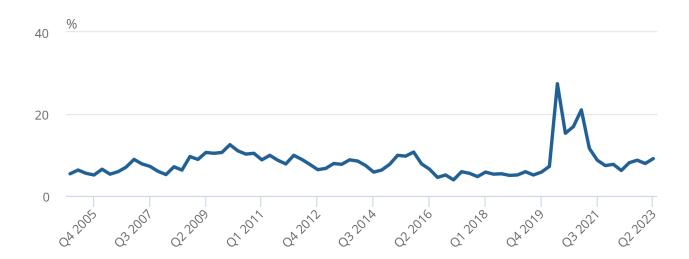
We publish the household savings ratio (<u>UK Economic Accounts: all data</u>), defined as the "proportion of a household's income that is saved rather than spent on consumption." This is plotted in Figure 7.

Figure 7: Households saving ratio

UK, Quarter 1 (Jan to Mar) 2005 to Quarter 2 (Apr to June) 2023, seasonally adjusted, current price expenditure

Figure 7: Households saving ratio

UK, Quarter 1 (Jan to Mar) 2005 to Quarter 2 (Apr to June) 2023, seasonally adjusted, current price expenditure



Source: Households saving ratio from the Office for National Statistics

A large increase is seen in the household savings ratio during the coronavirus pandemic. Some households saved more than normal during the pandemic, resulting in greater spending power in the period following the pandemic. This is likely to have affected expenditure patterns on discretionary items in the subsequent cost-of-living period considered here.

10. The overall impacts

Our Consumer trends household expenditure data can be used to provide insight into the impacts of cost-of-living pressures on households at an aggregate (national) level. Costs-of-living impacts are seen both at the level of total household expenditure, and on expenditure broken down by type.

There have been sharp increases in aggregate household expenditure in price (current price (CP)) terms in the cost-of-living period. By contrast in volume (chained volume measure (CVM)) terms, once price increases have been accounted for, there has been modest growth.

Food, gas and electricity have seen some of the sharpest price increases over the period. In some expenditure categories (for example, 'food and non-alcoholic beverages', and 'furnishings'), spending in volume terms has, unusually, fallen.

The paths of discretionary and non-discretionary household expenditure at the national aggregate level have diverged, although non-discretionary expenditure has been more resilient than might have been expected, given the sharp and broad price increase and associated cost-of-living pressures. Recent price increases have been smaller for discretionary items than for non-discretionary items, however, which may have reduced the differential between discretionary and non-discretionary expenditure.

Finally, it is noted that this article has focused on the effects of cost-of-living pressures on households' expenditure at the whole economy level. It provides context and is complementary to our more household-focused data and analysis, which investigates the variability of cost-of-living impacts across income distributions and household types. Overall, Consumer trends household expenditure data, along with our other economic and social statistics, have shown to be invaluable in helping to understand the national-level impact of this period of sustained price increases and cost pressures.

11. Classification of individual consumption by purpose categories

Non-discretionary COICOPS

Food products

- 01.1.1: Bread and cereals
- 01.1.2: Meat
- 01.1.3: Fish
- 01.1.4: Milk, cheese and eggs
- 01.1.5: Oils and fats
- 01.1.6: Fruit
- 01.1.7: Vegetables
- 01.1.9: Other food products

Rentals

- 04.1.1: Actual rents paid by tenants for housing
- 04.1.2: Other actual rents
- 04.2.1: Imputed rentals of owner occupiers
- 04.2.2: Other imputed rentals

Dwelling services

- 04.3.1: Materials for maintenance and repair of the dwelling
- 04.3.2: Services for maintenance and repair of the dwelling
- 04.4.1: Water supply
- 04.4.2: Refuse collection
- 04.4.3: Sewerage collection
- 04.4.4: Other dwelling related services

Fuel and energy

- 04.5.1: Electricity
- 04.5.2: Gas
- 04.5.3: Liquid fuels
- 04.5.4: Solid fuels
- 04.5.5: Heat energy

Repair of household products

- 05.1.3: Repair of furniture furnishings and carpets
- 05.3.3: Repair of household appliances

Medical products and services

- 06.1.1: Pharmaceutical products
- 06.1.2: Other medical products
- 06.1.3: Therapeutic equipment
- 06.2.1: Outpatient medical services
- 06.2.2: Dental services
- 06.2.3: Paramedical services
- 06.3: Hospital services

Vehicle products and services

- 07.2.1: Motor vehicle spares
- 07.2.2: Vehicle fuels and lubricants
- 07.2.3: Vehicle maintenance and repair
- 07.2.4: Other vehicle services

Passenger transport

- 07.3.1: Passenger transport by railway
- 07.3.2: Passenger transport by road

Communication services

- 08.1: Postal services
- 08.2: Telephone equipment
- 08.3: Telephone services

Pet products and services

- 09.3.4: Pets and related products
- 09.3.5: Veterinary and other pet services

Education

- 10.1: Pre-primary and primary education
- 10.2: Secondary education
- 10.3: Post-secondary, non-tertiary education

Catering

• 11.1.2: Canteens

Personal care products

- 12.1.2: Electric appliances for personal care
- 12.1.3: Other products for personal care

Insurance

- 12.4: Social protection
- 12.5.1: Life insurance
- 12.5.2: Dwelling insurance
- 12.5.3: Health insurance
- 12.5.4: Transport insurance
- 12.5.5: Other insurance

Financial services

- 12.6.1: Financial intermediation services indirectly measured (FISIM)
- 12.6.2: Other financial services

Other services

• 12.7: Other services

Discretionary COICOPs

Food and non-alcoholic beverages

- 01.1.8: Sugar and sweet products
- 01.2.1: Coffee, tea and cocoa
- 01.2.2: Mineral water and soft drinks

Alcoholic beverages, tobacco and narcotics

- 02.1.1: Spirits
- 02.1.2: Wine
- 02.1.3: Beers
- 02.2: Tobacco
- 02.3: Narcotics

Clothing and footwear

- 03.1.1: Clothing materials
- 03.1.2: Garments
- 03.1.3: Other articles of clothing and accessories
- 03.1.4: Cleaning, repair and hire of clothing
- 03.2.1: Shoes and other footwear
- 03.2.2: Repair and hire of footwear

Furnishings

- 05.1.1: Furniture and furnishings
- 05.1.2: Carpets and other floor coverings
- 05.2: Household textiles

Equipment and routine maintenance of the house

- 05.3.1: Major household appliances
- 05.3.2: Small electric household appliances
- 05.4: Household utensils
- 05.5.1: Major tools and equipment
- 05.5.2: Small tools and minor accessories
- 05.6.1: Non-durable household goods
- 05.6.2: Domestic and household services

Transport

- 07.1.1: Motor cars
- 07.1.2: Motor cycles
- 07.1.3: Bicycles
- 07.3.3: Air transport
- 07.3.4: Water transport
- 07.3.6: Other transport services

Audio-visual, photographic and information processing equipment

- 09.1.1: Audio visual equipment
- 09.1.2: Photographic and optical equipment
- 09.1.3: Information processing equipment
- 09.1.4: Recording media
- 09.1.5: Repairs of audio-visual equipment

Major durables

- 09.2.1: Major durables for outdoor recreation
- 09.2.2: Musical instruments and major durables for indoor recreation
- 09.2.3: Maintenance of other major durables

Other recreational items

- 09.3.1: Games, toys and hobbies
- 09.3.2: Sports, camping and open-air recreation equipment
- 09.3.3: Gardens, plants and flowers

Recreational and cultural services

- 09.4.1: Recreational and sporting services
- 09.4.2: Cultural services
- 09.4.3: Games of chance

Newspapers, books and stationery

- 09.5.1: Books
- 09.5.2: Newspapers and periodicals
- 09.5.3: Miscellaneous printed matter
- 09.5.4: Stationery and drawing materials
- 09.6: Package holidays

Education

- 10.4: Tertiary education
- 10.5: Education not definable by level

Restaurants and hotels

- 11.1.1: Restaurants and cafés
- 11.2: Accommodation services

Miscellaneous goods and services

- 12.1.1: Hairdressing and personal grooming
- 12.2: Prostitution
- 12.3.1: Jewellery, clocks and watches
- 12.3.2: Other personal effects

12. Data Sources and Quality

See the Measuring the data section in Consumer trends.

13. Related Links

Household Costs Indices for UK household groups: January 2022 to September 2023

Bulletin | Released 4 December 2023

Estimates of inflation rates experienced by different types of household in the UK.

Impact of increased cost of living on adults across Great Britain: July to October 2023

Article | Released 4 December 2023

Analysis of the groups of the population that report being affected by recent increases in the cost of living using data from the Opinions and Lifestyle Survey and of the characteristics associated with financial resilience prior to recent increases in the cost of living from the Wealth and Assets Survey.

Measuring changing prices and costs for consumers and households: December 2023

Article | Released 4 December 2023

Description of the different measures and approaches to inflation in the UK: Consumer Prices Index including owner occupiers' household costs (CPIH), Household Costs Indices (HCIs) and Retail Prices Index (RPI).

Consumer trends

Bulletin | Quarterly

Household final consumption expenditure (HHFCE) for the UK, as a measure of economic growth. Includes all spending on goods and services by members of UK households.

Consumer price inflation, UK

Bulletin | Monthly

Price indices, percentage changes, and weights for the different measures of consumer price inflation.

Family spending in the UK: April 2021 to March 2022

Bulletin | Released 31 May 2023

Average weekly household expenditure on goods and services in the UK, by age, income, economic status, socio-economic class, household composition and region.

14. Cite this article

Office for National Statistics (ONS), released 4 December 2023, ONS website, article, <u>ONS household expenditure data: insights into the effects of costs of living pressures</u>