

Article

# Consumer price indices, a brief guide: 2017

An overview of consumer price statistics. This briefly covers what consumer price indices are, what they are used for and how they are calculated.

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# 1 . Consumer price indices

Consumer price indices are important indicators of how the UK economy is performing.

The indices are used in many ways by the government, businesses and society in general. They can affect interest rates, tax allowances, wages, state benefits, pensions, maintenance, contracts and many other payments. They also show the impact of inflation on family budgets.

This article describes the main consumer price indices in the UK and explains how they are put together. It focuses on the Consumer Prices Index including owner occupiers' housing costs (CPIH) but highlights areas where other measures differ significantly.

## 2 . Inflation figures

Consumer price inflation is the rate at which the prices of the goods and services bought by households rise or fall; it is estimated by using consumer price indices. One way to understand a price index is to think of a very large shopping basket containing all the goods and services bought by households. The price index estimates changes to the total cost of this basket. Most Office for National Statistics (ONS) price indices are published monthly.

The Consumer Prices Index including owner occupiers' housing costs (CPIH) is the most comprehensive measure of inflation. It extends the Consumer Prices Index (CPI) to include a measure of the costs associated with owning, maintaining and living in one's own home, known as owner occupiers' housing costs (OOH), along with Council Tax. Both of these are significant expenses for many households that are excluded from the CPI.

The CPI continues to be published; it is produced to international standards in line with European regulations.

The Retail Prices Index (RPI) – a long-standing measure of UK inflation – and its derivatives do not meet the required standard for designation as National Statistics. The RPI, its subcomponents and the RPIX continue to be published as they are tied to long-term contracts.

The CPIH and CPI measure a wide range of prices.

The price of cars or hi-fi equipment might fall while the price of food or petrol may rise. The indices represent the average change in prices across a wide range of consumer purchases. This is achieved by carefully recording the prices of a typical selection of products from month to month using a large sample of shops and other outlets (including the provision of goods and services via the internet) throughout the UK.

The rest of this article explains how the CPIH and CPI are compiled. The approach is very similar, although some specific differences are highlighted later in this guide.

## 3 . The shopping basket

A convenient way of thinking about the CPIH and CPI is to imagine a very large “shopping basket” full of goods and services on which people typically spend their money: from bread to ready-made meals, from the cost of a cinema seat to the price of a pint at the local pub, from a holiday in Spain to the cost of a bicycle. The content of the basket is fixed for a period of 12 months, however, as the prices of individual products vary, so does the total cost of the basket. The CPIH and CPI, as measures of that total cost, only measure price changes. If people spend more because they buy more goods this is not reflected in the index.

The quantities or “weight” of the various items in the basket are chosen to reflect their importance in the typical household budget.

In practice of course we all spend different amounts on various goods and services that show different price movements.

While no-one is “average”, it is still convenient to have summary price measures which, although they may not strictly apply to any one individual or family, will still give us a useful yardstick of the impact of inflation on our own pocket or purse.

Considerable care is taken to ensure that the shopping basket is kept up-to-date and is representative of people’s spending patterns: the places and shops we go to, the goods and services that we buy and the amounts we spend on them.

## **4 . The cost of living**

The CPIH and CPI are not “cost of living” indices, a concept that means different things to different people. To many it would suggest the changing costs of basic essentials, but in practice it would be very difficult to agree on a definition of “essentials”. The index simply indicates what we would need to spend in order to purchase the same things we bought in an earlier period, irrespective of whether particular products are “needed” or are “good for you”. For example, cigarettes are included in the index as many people buy them. However, the calculations reflect the average shopping basket and so also take account of the fact that many people do not buy tobacco.

## **5 . What’s in the basket?**

The CPIH and CPI includes all types of household spending. There are some exceptions – savings and investments, charges for credit, betting and cash gifts – that fall outside the scope of the index. CPIH now extends the CPI to include a measure of the costs associated with owning, maintaining and living in one’s own home, known as owner occupiers’ housing costs (OOH) along with Council Tax.

It is impractical and unnecessary to monitor the price of every product sold in every single shop. The prices of similar items can reasonably be assumed to move in line with one another in response to market forces. It is therefore sufficient to compile the index using prices of a large and varied sample of products in selected locations. The goods and services for which prices are recorded are called “representative items”.

The CPIH, CPI and RPI are fixed quantity price indices: specific items are chosen to represent price movements in the baskets; prices are collected for those items only (700 representative items). Their movements are taken to represent the price changes for all goods and services covered by the index, including those for which prices are not specifically monitored. There are, for example, several items in the basket covering purchases of bread – such as a large white sliced loaf and large wholemeal loaf – that are combined together to estimate the overall change in bread prices.





| <b>Divisions</b>                                       | <b>Weight (parts per 1000)</b> |
|--|--------------------------------|
| CPIH (overall index)                                   | 1000                           |
| 01 Food and non-alcoholic beverages                    | 81                             |
| 02 Alcoholic beverages and tobacco                     | 34                             |
| 03 Clothing and footwear                               | 58                             |
| 04 Housing, water, electricity, gas and other fuels    | 294                            |
| 05 Furniture, household equipment and maintenance      | 49                             |
| 06 Health  | 21                             |
| 07 Transport   | 126                            |
| 08 Communication                                       | 21                             |
| 09 Recreation and culture                              | 121                            |
| 10 Education   | 17                             |
| 11 Restaurants and hotels                              | 101                            |
| 12 Miscellaneous goods and services                    | 77                             |
| <b>All goods</b>                                       | <b>419</b>                     |
| <b>All services</b>                                    | <b>581</b>                     |
| 01.1 Food  | 71                             |
| 01.1.1 Bread and cereals                               | 12                             |
| 01.1.1.1 Rice  | 0.36                           |
| 01.1.1.2 Flours and other cereals                      | 0.24                           |
| 01.1.1.3 Bread   | 2.64                           |
| 01.1.1.4 Other bakery products                         | 4.68                           |
| 01.1.1.5 Pizza and quiche                              | 0.72                           |
| 01.1.1.6 Pasta products and couscous                   | 0.60                           |
| 01.1.1.7/8 Breakfast cereals and other cereal products | 2.76                           |
| 01.1.2 Meat  | 16                             |
| 01.1.2.1 Beef and veal                                 | 2.08                           |
| 01.1.2.2 Pork  | 0.96                           |
| 01.1.2.3 Lamb and goat                                 | 1.12                           |
| 01.1.2.4 Poultry                                       | 2.56                           |
| 01.1.2.6 Edible offal                                  | 0.16                           |
| 01.1.2.7 Dried, salted or smoked meat                  | 6.56                           |
| 01.1.2.8 Other meat preparations                       | 2.56                           |
| 01.1.3 Fish  | 3                              |
| 01.1.3.1 Fresh or chilled fish                         | 1.02                           |

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|--|------|
| 01.1.3.4 Frozen seafood  | 0.54 |
| 01.1.3.6 Other preserved or processed fish and seafood based preps | 1.44 |
| 01.1.4 Milk, cheese and eggs                                       | 9    |
| 01.1.4.1 Milk, whole,  | 0.54 |
| 01.1.4.2 Milk, low fat   | 2.34 |
| 01.1.4.4 Yoghurt   | 1.35 |
| 01.1.4.5 Cheese and curd   | 2.43 |
| 01.1.4.6 Other milk products                                       | 1.44 |
| 01.1.4.7 Eggs  | 0.90 |
| 01.1.5 Oils and fats   | 2    |
| 01.1.5.1 Butter  | 0.72 |
| 01.1.5.2 Margarine and other vegetable fats                        | 0.76 |
| 01.1.5.3 Olive oil   | 0.52 |
| 01.1.6 Fruit   | 7    |
| 01.1.6.1 Fresh or chilled fruit                                    | 5.60 |
| 01.1.6.3 Dried fruit and nuts                                      | 1.12 |
| 01.1.6.4 Preserved fruit and fruit-based products                  | 0.28 |
| 01.1.7 Vegetables including potatoes and tubers                    | 10   |
| 01.1.7.1 Fresh or chilled vegetables other than potatoes           | 4.10 |
| 01.1.7.2 Frozen vegetables other than potatoes and other tubers    | 0.40 |
| 01.1.7.3 Dried vegetables, other preserved or processed vegetables | 1.30 |
| 01.1.7.4 Potatoes  | 1.70 |
| 01.1.7.5 Crisps  | 2.30 |
| 01.1.7.6 Other tubers and products of tuber vegetables             | 0.20 |
| 01.1.8 Sugar, jam, syrups, chocolate and confectionery             | 10   |
| 01.1.8.1 Sugar   | 0.60 |
| 01.1.8.2 Jams, marmalades and honey                                | 0.70 |
| 01.1.8.3 Chocolate   | 4.40 |
| 01.1.8.4 Confectionery products                                    | 2.90 |
| 01.1.8.5 Edible ices and ice cream                                 | 1.40 |
| 01.1.9 Food products (nec)   | 2    |
| 01.1.9.1 Sauces, condiments  | 0.96 |
| 01.1.9.4 Ready-made meals  | 0.72 |
| 01.1.9.9 Other food products nec                                   | 0.32 |
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| 01.2 Non-alcoholic beverages                                       | 10   |
| 01.2.1 Coffee, tea and cocoa                                       | 3    |
| 01.2.1.1 Coffee  | 1.68 |

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| 01.2.1.2 Tea  | 1.05  |
| 01.2.1.3 Cocoa and powdered chocolate                   | 0.27  |
| 01.2.2 Mineral waters, soft drinks and juices           | 7     |
| 01.2.2.1 Mineral or spring waters                       | 0.56  |
| 01.2.2.2 Soft drinks                                    | 3.99  |
| 01.2.2.3 Fruit and vegetable juices                     | 2.45  |
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| 02.1 Alcoholic beverages                                | 16    |
| 02.1.1 Spirits  | 5     |
| 02.1.2 Wine   | 7     |
| 02.1.2.1 Wine from grapes                               | 5.95  |
| 02.1.2.2 Wine from other fruits                         | 0.77  |
| 02.1.2.3 Fortified wines                                | 0.28  |
| 02.1.3 Beer   | 4     |
| 02.1.3.1 Lager beer                                     | 3.32  |
| 02.1.3.2 Other alcoholic beer                           | 0.68  |
| <hr/>   |       |
| 02.2 Tobacco  | 18    |
| 02.2.0.1 Cigarettes                                     | 15.48 |
| 02.2.0.2 Cigars   | 0.18  |
| 02.2.0.3 Other tobacco products                         | 2.34  |
| <hr/>   |       |
| 03.1 Clothing   | 49    |
| 03.1.2 Garments   | 44    |
| 03.1.2.1 Garments for men                               | 12.32 |
| 03.1.2.2 Garments for women                             | 22.88 |
| 03.1.2.3 Garments for infants (0-2) and children (3-13) | 8.80  |
| 03.1.3 Other clothing and clothing accessories          | 4     |
| 03.1.3.1 Other articles of clothing                     | 2.68  |
| 03.1.3.2 Clothing accessories                           | 1.32  |
| 03.1.4 Cleaning, repair and hire of clothing            | 1     |
| 03.1.4.1 Cleaning of clothing                           | 0.83  |
| 03.1.4.2 Repair and hire of clothing                    | 0.17  |
| <hr/>   |       |
| 03.2 Footwear including repairs                         | 9     |
| 03.2.1.1 Footwear for men                               | 2.88  |
| 03.2.1.2 Footwear for women                             | 4.77  |
| 03.2.1.3 Footwear for infants and children              | 1.35  |
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|---|-------|
| 04.1 Actual rentals for housing                         | 56    |
| 04.2 Owner occupiers' housing costs                     | 174   |
| 04.3 Regular maintenance and repair of the dwelling     | 2     |
| 04.3.1 Materials for maintenance and repair             | 1     |
| 04.3.2 Services for maintenance and repair              | 1     |
| 04.3.2.1 Services of plumbers                           | 0.35  |
| 04.3.2.2 Services of electricians                       | 0.22  |
| 04.3.2.4 Services of painters                           | 0.22  |
| 04.3.2.5 Services of carpenters                         | 0.21  |
| 04.4 Water supply and misc. services for the dwelling   | 9     |
| 04.4.1 Water supply                                     | 4     |
| 04.4.3 Sewerage collection                              | 5     |
| 04.5 Electricity, gas and other fuels                   | 27    |
| 04.5.1 Electricity                                      | 13    |
| 04.5.2 Gas  | 12    |
| 04.5.2.1 Natural gas and town gas                       | 11.76 |
| 04.5.2.2 Liquefied hydrocarbons (butane, propane, etc.) | 0.24  |
| 04.5.3 Liquid fuels                                     | 1     |
| 04.5.4 Solid fuels                                      | 1     |
| 04.9 Council Tax and rates                              | 26    |
| 05.1 Furniture, furnishings and carpets                 | 18    |
| 05.1.1 Furniture and furnishings                        | 15    |
| 05.1.1.1 Household furniture                            | 13.65 |
| 05.1.1.2 Garden furniture                               | 0.30  |
| 05.1.1.3 Lighting equipment                             | 0.60  |
| 05.1.1.9 Other furniture and furnishings                | 0.45  |
| 05.1.2 Carpets and other floor coverings                | 3     |
| 05.1.2.1 Carpets and rugs                               | 2.76  |
| 05.1.2.2 Other floor coverings                          | 0.24  |
| 05.2 Household textiles                                 | 6     |

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| 05.2.0.1 Furnishings fabrics and curtains  | 2.04 |
| 05.2.0.2 Bed linen   | 2.94 |
| 05.2.0.3 Table linen and bathroom linen  | 1.02 |
| <hr/>  |      |
| 05.3 Household appliances, fitting and repairs                                       | 7    |
| 05.3.1/2 Major appliances and small electric goods                                   | 6    |
| 05.3.1.1 Refrigerators, freezers and fridge-freezers                                 | 0.84 |
| 05.3.1.2 Clothes washing machines, clothes drying machines and dish washing machines | 1.44 |
| 05.3.1.3 Cookers   | 0.78 |
| 05.3.1.4 Heaters, air conditioners   | 1.20 |
| 05.3.1.5 Cleaning equipment  | 0.90 |
| 05.3.2.2 Coffee machines, tea makers and similar appliances                          | 0.48 |
| 05.3.2.3 Irons   | 0.18 |
| 05.3.2.9 Other small electric household appliances                                   | 0.18 |
| 05.3.3 Repair of household appliances  | 1    |
| <hr/>  |      |
| 05.4 Glassware, tableware and household utensils                                     | 4    |
| 05.4.0.1 Glassware, crystal-ware, ceramic ware and chinaware                         | 1.40 |
| 05.4.0.2 Cutlery, flatware and silverware  | 0.20 |
| 05.4.0.3 Non electric kitchen utensils and articles                                  | 2.40 |
| <hr/>  |      |
| 05.5 Tools and equipment for house and garden  | 4    |
| 05.5.1.1 Motorised major tools and equipment   | 0.52 |
| 05.5.1.2 Repair, leasing and rental of major tools and equipment                     | 0.16 |
| 05.5.2.1 Non-motorised small tools   | 0.72 |
| 05.5.2.2 Miscellaneous small tool accessories  | 2.60 |
| <hr/>  |      |
| 05.6 Goods and services for routine maintenance                                      | 10   |
| 05.6.1 Non-durable household goods   | 4    |
| 05.6.1.1 Cleaning and maintenance products   | 3.04 |
| 05.6.1.2 Other non-durable small household articles                                  | 0.96 |
| 05.6.2 Domestic services and household services                                      | 6    |
| 05.6.2.1 Domestic services by paid staff   | 3.96 |
| 05.6.2.9 Other domestic services and household services                              | 2.04 |
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| 06.1 Medical products, appliances and equipment                                      | 10   |
| 06.1.1 Pharmaceutical products   | 6    |

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| 06.1.2/3 Other medical and therapeutic equipment                          | 4     |
| 06.1.2.1 Pregnancy tests and mechanical contraceptive devices             | 0.48  |
| 06.1.2.9 Other medical products n.e.c                                     | 0.52  |
| 06.1.3.1 Corrective eye-glasses and contact lenses                        | 3.00  |
| <hr/>   |       |
| 06.2 Out-patient services   | 5     |
| 06.2.1/3 Medical services & paramedical services                          | 3     |
| 06.2.2 Dental services  | 2     |
| <hr/>   |       |
| 06.3 Hospital services  | 6     |
| <hr/>   |       |
| 07.1 Purchase of vehicles   | 37    |
| 07.1.1A New cars  | 21    |
| 07.1.1B Second-hand cars  | 14    |
| 07.1.2/3 Motorcycles and bicycles   | 2     |
| 07.1.2.0 Motor cycles   | 0.66  |
| 07.1.3.0 Bicycles   | 1.34  |
| <hr/>   |       |
| 07.2 Operation of personal transport equipment                            | 61    |
| 07.2.1 Spare parts and accessories  | 4     |
| 07.2.1.1 Tyres  | 0.68  |
| 07.2.1.2 Spare parts for personal transport                               | 3.32  |
| 07.2.2 Fuels and lubricants   | 26    |
| 07.2.2.1 Diesel   | 9.36  |
| 07.2.2.2 Petrol   | 16.38 |
| 07.2.2.4 Lubricants   | 0.26  |
| 07.2.3 Maintenance and repairs  | 20    |
| 07.2.4 Other services   | 11    |
| 07.2.4.1 Hire of garages, parking spaces and personal transport equipment | 2.75  |
| 07.2.4.2 Toll facilities and parking meters                               | 1.21  |
| 07.2.4.3 Driving lessons, test licences and road worthiness tests         | 7.04  |
| <hr/>   |       |
| 07.3 Transport services   | 28    |
| 07.3.1 Passenger transport by railway                                     | 11    |
| 07.3.1.1 Passenger transport by train                                     | 8.14  |
| 07.3.1.2 Passenger transport by underground and tram                      | 2.86  |
| 07.3.2/6 Passenger transport by road and other transport services         | 10    |
| 07.3.2.1 Passenger transport by bus and coach                             | 5.00  |

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| 07.3.2.2 Passenger transport by taxi and hired car with driver                              | 3.00 |
| 07.3.6.2 Removal and storage services   | 2.00 |
| 07.3.3 Passenger transport by air   | 4    |
| 07.3.4 Passenger transport by sea and inland waterway                                       | 3    |
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| 08.1 Postal services  | 1    |
| <hr/>   |      |
| 08.2/3 Telephone and telefax equipment and services   | 20   |
| 08.2.0.1 Fixed telephone equipment  | 0.20 |
| 08.2.0.2 Mobile telephone equipment   | 0.80 |
| 08.3.0.1 Wired telephone services   | 2.00 |
| 08.3.0.2 Wireless telephone services  | 7.40 |
| 08.3.0.3 Internet access provision services   | 0.60 |
| 08.3.0.4 Bundled telecommunication services   | 9.00 |
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| 09.1 Audio-visual equipment and related products  | 15   |
| 09.1.1 Reception and reproduction of sound and pictures                                     | 3    |
| 09.1.1.1 Equipment for the reception, recording and reproduction of sound                   | 0.72 |
| 09.1.1.2 Equipment for the reception, recording and reproduction of sound and vision        | 1.92 |
| 09.1.1.3 Portable sound and vision devices  | 0.21 |
| 09.1.1.9 Other equipment for the reception, recording and reproduction of sound and picture | 0.15 |
| 09.1.2 Photographic, cinematographic and optical equipment                                  | 2    |
| 09.1.3 Data processing equipment  | 5    |
| 09.1.3.1 Personal computers   | 2.60 |
| 09.1.3.2 Accessories for information processing equipment                                   | 1.60 |
| 09.1.3.3 Software   | 0.80 |
| 09.1.4 Recording media  | 4    |
| 09.1.4.1 Pre-recorded recording media   | 3.52 |
| 09.1.4.2 Unrecorded recording media   | 0.20 |
| 09.1.4.9 Other recording media  | 0.28 |
| 09.1.5 Repair of audio-visual equipment & related products                                  | 1    |
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| 09.2 Oth. major durables for recreation & culture   | 13   |
| 09.2.1/2/3 Major durables for in/outdoor recreation and their maintenance                   | 13   |
| 09.2.1.1 Camper vans  | 6.76 |
| 09.2.1.3 Boats, outboard motors and fitting out of boats                                    | 2.86 |
| 09.2.1.5 Major items for games and sport  | 1.04 |

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| 09.2.2.1 Musical instruments   | 0.91 |
| 09.2.3.0 Maintenance and repair of other major durables for recreation and culture | 1.43 |
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| 09.3 Other recreational items, gardens and pets                                    | 30   |
| 09.3.1 Games, toys and hobbies   | 16   |
| 09.3.1.1 Games and hobbies   | 7.04 |
| 09.3.1.2 Toys and celebration articles   | 8.96 |
| 09.3.2 Equipment for sport and open-air recreation                                 | 3    |
| 09.3.2.1 Equipment for sport   | 2.37 |
| 09.3.2.2 Equipment for camping and open-air recreation                             | 0.63 |
| 09.3.3 Gardens, plants and flowers   | 4    |
| 09.3.3.1 Garden products   | 0.52 |
| 09.3.3.2 Plants and flowers  | 3.48 |
| 09.3.4/5 Pets, related products and services                                       | 7    |
| 09.3.4.1 Purchase of pets  | 0.35 |
| 09.3.4.2 Products for pets   | 3.64 |
| 09.3.5.0 Veterinary and other services for pets                                    | 3.01 |
| <hr/>  |      |
| 09.4 Recreational and cultural services  | 26   |
| 09.4.1 Recreational and sporting services  | 8    |
| 09.4.1.1 Recreational and sporting services - Attendance                           | 1.36 |
| 09.4.1.2 Recreational and sporting services - Participation                        | 6.64 |
| 09.4.2 Cultural services   | 18   |
| 09.4.2.1 Cinemas, theatres, concerts   | 6.48 |
| 09.4.2.2 Museums, libraries, zoological gardens                                    | 3.42 |
| 09.4.2.3 Television and radio licence fees, subscriptions                          | 6.84 |
| 09.4.2.4 Hire of equipment and accessories for culture                             | 0.54 |
| 09.4.2.5 Photographic services   | 0.72 |
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| 09.5 Books, newspapers and stationery  | 9    |
| 09.5.1 Books   | 3    |
| 09.5.1.1 Fiction books   | 1.23 |
| 09.5.1.3 Other non-fiction books   | 1.50 |
| 09.5.1.4 Binding services and e-book downloads                                     | 0.27 |
| 09.5.2 Newspapers and periodicals  | 3    |
| 09.5.2.1 Newspapers  | 2.01 |
| 09.5.2.2 Magazines and periodicals   | 0.99 |
| 09.5.3.0 Miscellaneous printed matter  | 0.75 |

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| 09.5.3/4 Misc. printed matter, stationery, drawing materials                              | 3     |
| 09.5.4.1 Paper products   | 1.20  |
| 09.5.4.9 Other stationery and drawing materials   | 1.05  |
| <hr/>   |       |
| 09.6 Package holidays   | 28    |
| <hr/>   |       |
| 10.0 Education  | 17    |
| 10.1/2/5 Pre-primary, primary and secondary education(incl not definable by level)        | 6.46  |
| 10.4 Tertiary education   | 10.54 |
| <hr/>   |       |
| 11.1 Catering services  | 77    |
| 11.1.1 Restaurants & cafes  | 70    |
| 11.1.1.1 Restaurants, cafes and dancing establishments                                    | 52.50 |
| 11.1.1.2 Fast food and take away food services  | 17.50 |
| 11.1.2 Canteens   | 7     |
| <hr/>   |       |
| 11.2 Accommodation services   | 24    |
| 11.2.0.1 Hotels, motel, inns and similar accommodation services                           | 20.88 |
| 11.2.0.2 Holiday centres, camping sites, youth hostels and similar accommodation services | 0.72  |
| 11.2.0.3 Accommodation services of other establishments                                   | 2.40  |
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| 12.1 Personal care  | 25    |
| 12.1.1 Hairdressing and personal grooming establishments                                  | 6     |
| 12.1.1.1 Hairdressing for men and children  | 1.32  |
| 12.1.1.2 Hairdressing for women   | 2.70  |
| 12.1.1.3 Personal grooming treatments   | 1.98  |
| 12.1.2.1 Electric appliances for personal care  | 0.95  |
| 12.1.2/3 Appliances and products for personal care  | 19    |
| 12.1.3.1 Non electric appliances  | 1.33  |
| 12.1.3.2 Articles for personal hygiene and wellness                                       | 16.72 |
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| 12.3 Personal effects (nec)   | 11    |
| 12.3.1 Jewellery, clocks and watches  | 7     |
| 12.3.1.1 Jewellery  | 5.11  |
| 12.3.1.2 Clocks and watches   | 1.40  |
| 12.3.1.3 Repair of jewellery, clocks and watches  | 0.49  |
| 12.3.2 Other personal effects   | 4     |

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|---|------|
| 12.3.2.1 Travel goods   | 2.60 |
| 12.3.2.2 Articles for babies  | 0.44 |
| 12.3.2.9 Other personal effects n.e.c.                                    | 0.96 |
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| 12.4 Social protection  | 13   |
| 12.4.0.1 Child care services  | 7.41 |
| 12.4.0.2 Retirement homes for elderly persons and residences for disabled | 3.64 |
| 12.4.0.3 Services to maintain people in their private homes               | 1.95 |
| <hr/>   |      |
| 12.5 Insurance  | 7    |
| 12.5.2 House contents insurance   | 2    |
| 12.5.3/5 Health insurance and other insurance                             | 2    |
| 12.5.4 Transport insurance  | 3    |
| 12.5.4.1 Motor vehicle insurance  | 2.79 |
| 12.5.4.2 Travel insurance   | 0.21 |
| <hr/>   |      |
| 12.6 Financial services (nec)   | 11   |
| 12.6.2 Other financial services (nec)                                     | 11   |
| 12.6.2.1 Charges by banks and post offices                                | 7.37 |
| 12.6.2.2 Fees and service charges of brokers, investment counsellors      | 3.63 |
| <hr/>   |      |
| 12.7 Other services (nec)   | 10   |
| 12.7.0.1 Administrative fees  | 0.30 |
| 12.7.0.2 Legal services and accountancy                                   | 1.90 |
| 12.7.0.3 Funeral services   | 2.10 |
| 12.7.0.4 Other fees and services  | 5.70 |
| <hr/>   |      |

Source: Office for National Statistics

## 6 . Price collection

Around the middle of each month, price collectors record about 100,000 prices for around 520 items consisting of specified types of goods and services. The price collectors are employed by the contractor (TNS) to carry out price collection on behalf of ONS, visiting a variety of shops in around 150 locations throughout the UK. Most local shops are visited in person to collect prices at first hand, although some work is done by telephone. The price collectors go to the same shops each month, noting the prices of the same products, so that over time they compare "like with like".

The reliability of the index depends very much on retailers' goodwill. The information collected is treated with the strictest confidence, and no data relating to individual retailers or businesses is ever divulged or passed on to a third party.

For many goods and services it is more efficient to collect prices centrally (that is, at ONS). Information on charges such as those for football admissions, water supply, newspapers and rail fares – about 80,000 prices for 190 items in all – are obtained from central sources and used in the CPIH and CPI. Prices for some large chain stores that have national pricing policies are also collected centrally at ONS.

## 7 . Quality change

It is important that the index calculations are based on like-for-like comparisons, of prices each month for each of the items in the basket.

However, some brands or varieties of particular products priced at the start of the year may not be available in later months. This is common in markets where the rate of technological progress is high, as is the case with many electronic goods, or where consumer tastes change rapidly, for example, in clothing.

When particular products do disappear from the market, care is taken to ensure that replacements are of broadly comparable quality so that price comparisons are not distorted. If this is not possible, prices are adjusted to take account of the change in quality, using one of a range of techniques, from fairly simple methods, to procedures that relate the prices of goods to their features.

Explicit adjustments are made, for example, in the case of personal computers, where most replacement models are of higher quality than their predecessors. A rise in price might be accompanied by improvements in processing speed, for example. In this case, an index that did not take account of improved quality would show higher inflation than an index that does adjust for quality change.

A simpler example occurs where a manufacturer changes the size or weight of a product. For example, this has happened with the size of some confectionery products being reduced. Not adjusting for this change would result in an index showing lower inflation than an index that is adjusted for the change.

In this way, quality adjustment helps to focus the index on “underlying” price changes for a fixed basket of goods and services.

## 8 . Weighting

We spend more on some things than others. So we would expect, for example, a 10% increase in the price of petrol to have a much bigger impact on the CPIH or CPI than a similar rise in the price of tea. For this reason, the components of the index are “weighted” to ensure that it reflects the importance of the various items in the average shopping basket, and the amounts we spend in different regions of the country and in different types of shops.

The CPIH and CPI’s weights are based on the monetary expenditure of all private households in the UK, foreign visitors to the UK and residents of communal establishments such as nursing homes, retirement homes and university halls of residence. The weights are mainly derived from the household final monetary consumption expenditure component of the national accounts.

The weights for the RPI are derived from a number of sources but mainly from our Living Costs and Food Survey. Each year, a sample of several thousand households from all over the country keep records of their spending over the course of a fortnight. They also record details of major purchases over a longer period.

In calculating the weights for the RPI, the expenditure of certain private households are excluded. Households whose income is within the top 4% of all households, and pensioner households that derive at least three-quarters of their total income from state pensions and benefits, are excluded on the grounds that the spending of these groups is significantly different from the majority. These restrictions are designed to make the RPI more representative of the "typical household". The RPI also excludes residents of communal establishments and foreign visitors to the UK.

## 9 . Updating the shopping basket

It is important that the index is representative and kept up-to-date. The basket of goods and services is therefore reviewed every year, helping to ensure that the CPIH and CPI calculations more accurately reflect UK shopping and purchasing patterns.

A wide range of information is used in determining the contents of the CPIH and CPI basket, including our own surveys of household spending, external market research and feedback from the price collectors. Some changes to the basket are necessary each year due to changing markets, fashions and new products. Smart-phones and tablet PCs, for example, have been added in recent years. The basket is fixed for a period of 12 months.

The weights for the index are also changed each year to keep pace with general changes in our spending habits. Over the years people have tended to spend more of their money on electrical goods, travel and leisure while the proportion they spend on basics has fallen.

## 10 . Calculating the index

After the price data have been checked and processed, the resulting price indicators are combined. Changes in prices of the individual goods and services in the index are measured by comparing them to their levels in the previous January. These are then weighted together using the weights for the current year to produce an overall average price change. The final stage in the calculation is to link the average price changes with the figures for earlier years. Only by "chain-linking" the calculations in this way can the index:

- take account of changes in the make-up of the shopping basket from year to year
- provide like-for-like comparisons between different years – this procedure ensures that the index is not distorted when items are either removed from, or introduced into, the CPIH or CPI "shopping basket".

This procedure ensures that the index is not distorted when items are either removed from, or introduced into the CPIH and CPI "shopping basket".

## 11 . Reference dates

The CPIH and CPI measures price changes, not price levels. It is therefore expressed in terms of the comparison of prices relative to 2015, when the index is given a value of 100.

For example - The CPIH index for July 2017 was 103.5 indicating that £103.50 would buy the same amount of goods and services as £100.00 would have in 2015. This represents a rise in prices of 3.5% between 2015 and July 2017.

The annual rate of inflation is simply the percentage change in the latest index compared with the value recorded 12 months previously.

The CPIH and CPI reference date of 2015 is arbitrary, providing simply a convenient benchmark for comparison. The choice of date has no material effect on the measurement of price changes between one month and another. The official series for CPI started in January 1996, although estimates are available back to 1988. The official series for CPIH starts in 2005.

Compared with the CPIH and CPI, the RPI has a much longer history. The series started in 1947, and prices are expressed relative to January 1987, when the index has a value of 100.

## **12 . Index dates**

The index always refers to the second or third Tuesday of each month. Since it can often take longer than one day to collect all the local shop prices, some of these are collected on the Monday or the Wednesday. However, certain prices, which can fluctuate markedly from day to day, always relate to the Tuesday. Centrally collected prices, with only a few exceptions, also relate to a Tuesday.

The CPIH, CPI and RPI share the same price collection dates, with the exception of prices for petrol and diesel. For the CPIH and CPI, prices are averaged over the month, based on the prices prevailing on each Monday during the month. This approach is adopted in order to comply with EU regulations.

## **13 . Differences between the CPIH, CPI and RPI**

The CPIH and CPI uses essentially the same basic price data as the RPI but differs in some important respects, most of which are described earlier in this article. The differences include:

### **Population base**

The CPIH and CPI covers a broader population than the RPI.

### **Item coverage**

Currently the coverage of CPIH and CPI is identical, except for the inclusion of a measure of owner occupiers' housing costs in the first. The RPI includes certain items relating to housing costs (such as mortgage interest payments) that are not included in the CPIH and CPI. Conversely there are also some services covered by the CPIH and CPI – such as charges for financial services – which are not in the RPI.

### **Index methodology – formula**

The CPIH and CPI mostly use the geometric mean (with some use of the arithmetic mean) whereas the RPI uses the arithmetic mean to combine prices at the first stage of aggregation.

### **Item coding**

The CPIH and CPI structure follows a standard international classification system whereas the RPI has its own unique system.

## 14 . Publication

We publish the figures each month in a [statistical bulletin](#) with accompanying detailed briefing notes, about a month after the index date. The publication dates are announced at least six months in advance. Data are also available on the time series data pages.

A detailed explanation of the methodology used in compiling the indices is given in the [Consumer Price Indices Technical Manual](#).