

Users and uses of consumer price inflation statistics: July 2018 update

Information about the users and uses of consumer price inflation statistics and user experiences of these statistics. In addition, it provides information on the characteristics of the different measures of consumer price inflation in relation to potential use, as well as the history of the indices.

Contact:
James Tucker
cpi@ons.gov.uk
Consumer Price Inflation
Enquiries: +44 (0)1633 456900

Release date:
25 July 2018

Next release:
To be announced

Table of contents

1. [Introduction](#)
2. [Users and uses of consumer price inflation statistics](#)
3. [Characteristics of the different measures of consumer price inflation](#)

1 . Introduction

Consumer price inflation is the rate at which the prices of goods and services bought by households rise and fall, and is estimated by using price indices. One way to understand a price index is to think of a very large shopping basket containing all the goods and services typically bought by households. Movements in price indices represent the changing cost of this basket.

Consumer price inflation statistics are important indicators of how the UK economy is performing. They are used in many ways by a broad range of individuals and organisations. Inflation statistics impact on everyone in some way as they affect interest rates, tax allowances, benefits, pensions, savings rates, maintenance contracts and many other payments.

Following an [independent review](#) and public consultation, the National Statistician published a statement setting out plans for consumer price inflation statistics in the UK, to ensure that they meet current and emerging user needs. A [subsequent article set out three “use cases”](#), also summarised in this article, to help users to make an informed choice over which measure is best suited for their purpose.

A comprehensive measure based on economic principles

The Consumer Prices Index including owner occupiers' housing costs (CPIH) is a National Statistic and is our lead 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 are significant expenses for many households. The CPI is also a National Statistic and is produced in line with European regulations. It is the UK's contribution to the European Union's Harmonised Index of Consumer Prices (HICP), thereby providing a measure that is comparable across EU member states.

A set of measures to reflect the change in costs as experienced by households

Consumer price indices measure changes in the prices of goods and services consumed by households. Measuring changes in the cost of consumption of goods and services is extremely important for measuring economic activity in the UK; however, it does not always reflect the changes in costs that are directly experienced by UK households. The Household Costs Indices (HCIs) are a set of measures that will reflect changes in prices and costs as they are directly experienced by different household groups (for example, retired and non-retired households). [The first set of experimental indices](#) was published in December 2017 and an update is planned in early 2019.

A legacy measure that is required for continuity

The Retail Prices Index (RPI) is the longest-standing measure of inflation in the UK, but it is no longer a National Statistic due to its methodology not meeting international standards. The article [Shortcomings of the Retail Prices Index as a measure of inflation](#) describes the issues affecting the RPI. Due to its use in long-standing contracts, we continue to publish the RPI and its sub-components.

This article details the known users and uses of consumer price inflation statistics, along with information on the characteristics of the different measures of consumer price inflation, to help inform their use. We have a role to play in explaining the properties of each index so users can make an informed decision about which measure to use, but it is ultimately the responsibility of users to determine which statistics they select for their purpose.

Because the Household Costs Indices are currently Experimental Statistics, the article focuses on CPIH, CPI and RPI.

2 . Users and uses of consumer price inflation statistics

Sources of information

Information on the users and uses of consumer price inflation statistics has been gathered from a variety of sources, including feedback obtained in response to the 2015 consultation on consumer prices. The consultation followed a comprehensive independent review of inflation measurement in the UK, led by Mr Paul Johnson (commonly referred to as the [Johnson Review](#)), which made a series of recommendations for future development. We also undertook extensive user engagement as part of the transition to CPIH as our lead measure of inflation and have comprehensive arrangements in place for ongoing engagement. These include the Advisory Panels for Consumer Prices, the RPI and CPI User Group and StatsUserNet forum, insight gained from enquires we receive, and media reports. Collectively, these approaches have given us an in-depth understanding of the range of uses, which span a wide variety of users including pension groups, financial institutions, government departments, unions, businesses and individuals.

Because there are so many contracts that are indexed to inflation, a change in the rate, or to the way that inflation is measured, can have a huge financial impact. For example, a 1 percentage point increase in Retail Prices Index (RPI) inflation in 2018 to 2019 would increase interest payments on government bonds by approximately £4.2 billion in the same year (according to the [Office for Budget Responsibility, 2018](#)). For aggregate pension schemes, if the assumed rate of inflation increases by 0.1%, with nominal gilt yields unchanged, then the liabilities for these schemes increase by around £10.4 billion (according to the [Pension Protection Fund, 2016](#)).

The known users and uses of consumer price inflation statistics are presented in Table 1. In the last 15 to 20 years there has been a shift towards using the Consumer Prices Index (CPI) in preference to the RPI, but the RPI remains widely used despite it no longer being a National Statistic. While CPIH is our most comprehensive measure and is designated as a National Statistic, it is a relatively new index and its use is not yet widespread. It is being closely monitored by the Bank of England and HM Treasury and the [Chancellor of the Exchequer has indicated that the government expects it to become the preferred measure for indexation \(PDF, 305.9KB\)](#), although no timescale has yet been given.

Table 1: Users and uses of consumer price inflation statistics

.tg th, .tg td{padding:10px 5px;border:1px solid black;text-align:left;} .tg tbody {vertical-align:top}

Use

Use detail

User

Index used

Additional detail

Monetary policy	Inflation targeting	Bank of England	Consumer Prices Index (CPI)	Since 1992, the UK government has based its economic policies around targeting a specific range of inflation. Since December 2003, the target has been the CPI at 2%. Prior to this it was the RPIX (RPI excluding mortgage interest payments) at 2.5%.
Macroeconomic measure of inflation	Monitoring inflationary pressures in the economy	Economists and analysts in government, business and academia	Consumer Prices Index including owner occupiers' housing costs (CPIH), CPI and Retail Prices Index (RPI)	Consumer price inflation statistics are used by economists and analysts as macroeconomic indicators. The statistics can be used to inform decisions on economic and government policy. Government departments use consumer price inflation statistics to monitor how prices for specific goods or services compare with general levels of inflation; for example, in 2017, Defra moved to CPIH for monitoring food price inflation.
Deflation	To remove price effects from statistics, such as in the UK National Accounts	ONS, government departments and other users who want to remove the effects of price change from their statistics	CPIH, CPI and RPI	For many purposes, comparisons over time are more useful when the effect of price change is eliminated. For example, the ONS's Average Weekly Earnings (AWE) figures are deflated by CPIH.
Research and analysis	Additional analysis of inflation data, often in conjunction with other economic and social statistics	Academia, think tanks, voluntary sector	CPIH, CPI and RPI	CPI continues to be widely used, reflecting its broad range of applications. In March 2017, the Resolution Foundation moved to using CPIH in analyses of inflation impact on households.
Inflation reporting	Publication of articles and reports on inflation	The media	CPIH, CPI and RPI	Consumer price inflation statistics receive much interest from the media. Reports tend to focus on CPI, particularly due to its use in inflation targeting.

Informing the public	Understanding the impact of inflation on personal and household budgets	General public	CPIH, CPI and RPI	Consumer price inflation statistics are used by members of the public to understand the impact of inflation on their personal and household budgets, and to understand how incomings and outgoings linked to inflation (such as taxes, benefits, pensions, wages, rail fares and other costs) are likely to change.
Index-linked bonds and National Savings Certificates	Index-linking government bonds (gilts)	Debt Management Office	RPI	Coupon payments and principal payments associated with these bonds are adjusted in line with the RPI. The total value of these bonds is estimated at £420 billion (as at July 2018).
	Other bonds	Various	CPI and RPI	The majority of bonds continue to be linked to RPI, although Cambridge University sold £300 million of CPI-linked bonds in June 2018.
	National Savings and Investments Index-linked Savings Certificates	National Savings and Investments	RPI	The value of these certificates is guaranteed to grow at least in line with the RPI.
Business tax	Corporation Tax on chargeable gains	HM Revenue and Customs	RPI	The RPI is used to calculate the indexation allowance for the effects of inflation when calculating the chargeable gains of companies or organisations. From January 2018 the indexation allowance has been frozen.
	Business rates	UK government for England, Scottish Parliament for Scotland, and the National Assembly for Wales	CPI	Business rates changed from being increased by RPI to CPI, taking effect in April 2018.
Indirect tax	Vehicle Excise Duty	HM Revenue and Customs	RPI	Vehicle Excise Duty rates increase in line with the RPI.
	Fuel Duty	HM Revenue and Customs	RPI	Fuel Duty is often increased in line with the RPI. However, Fuel Duty has been frozen in recent years.
	Alcohol Duty rates	HM Revenue and Customs	RPI	Alcohol Duty rates often increase by reference to the RPI.
	Tobacco Duty rates	HM Revenue and Customs	RPI	Tobacco Duty rates increase by reference to the RPI.
	Gaming Duty	HM Revenue and Customs	RPI	Gross gaming yield bands increase in line with the RPI.

	Air Passenger Duty	HM Revenue and Customs	RPI	Air Passenger Duty rates increase in line with the RPI.
Personal tax	Income tax allowances and thresholds	HM Revenue and Customs	CPI	Historically the RPI had been used to uprate this threshold, with the Finance Act 2014 changing the basis of indexation to CPI.
	Car and van fuel benefit charge	HM Revenue and Customs	RPI	The rate of fuel benefit charge for company cars, fuel benefit charge for company vans, and the benefit charge for company vans all increase in line with the RPI.
Regulated charges	Charge controls imposed across a range of industries such as water and telecoms.	Member organisations of the UK Regulators Network (UKRN)	CPIH, CPI or RPI	The UKRN published a position paper in June 2018, which highlights the shortcomings of the RPI and presents the issues that regulators should consider when changing the basis of indexation. The annex to the paper details Economic Regulators that have moved, or have plans to move, away from RPI to CPI or CPIH. Ofwat recently announced a move to CPIH for indexation of customer bills and company assets.
Indexation of pensions and benefits	State Pensions	Department for Work and Pensions	CPI	The basic State Pension increases every year by whichever is the highest of earnings growth, CPI, or 2.5% (known as the “triple lock”).
	Civil Service Pensions	UK government	CPI	Since 2011 payments have increased in line with the CPI. Previously the RPI was used.
	Private sector pensions	Private sector companies	CPI and RPI	For private sector pension funds under the rules of the Pensions Trust, the annual rate of increase in the private sector occupational pensions in-payment must be greater than a statutory amount which is set by the government. Since 6 April 2011, this statutory amount has been related to the CPI. Prior to this date the statutory amount was related to the RPI. If the rules of a pension scheme specifically refer to the RPI, however, then this applies unless the scheme changes its rules.
	Benefits	Department for Work and Pensions	CPI	A freeze in the uprating of most working age benefits is in place from 2016/17 to 2019/20. Before this, most benefits were increased in line with the CPI. Other benefits such as maternity pay and Personal Independence Payments have not been frozen and are uprated using CPI.

Pay setting and wage negotiations	Wage bargaining and pay setting deals	Public and private sector employers, employees and Trade Unions	CPIH, CPI and RPI	Consumer price inflation is an important factor in wage bargaining and pay setting deals. Some pay agreements refer to specific indices.
Student loans	Interest payments on student loans	Student Loans Company	RPI	For students in England and Wales who enrolled on courses starting on or after 1 September 2012, the interest rate paid on their student loans ranges between the RPI and the RPI plus 3%, depending on circumstances.
Business contracts	Private sector business contracts	Private sector companies	CPIH, CPI and RPI	Consumer price indices are used in some private sector business contracts to inflate and/or deflate monetary values and to set payment amounts.
Rents	Uprating of private property rents	Landlords	CPIH, CPI and RPI	Landlords use inflation indices to uprate rents.
	Uprating of social housing rents	Housing associations	CPI	Following four years of 1% reductions, the government announced a return to uprating social housing rents by CPI plus 1% for five years, starting in 2020.

3 . Characteristics of the different measures of consumer price inflation

Each of the three measures of consumer prices inflation (Consumer Prices Index including owner occupiers' housing costs (CPIH), Consumer Prices Index (CPI) and Retail Prices Index (RPI)) has specific characteristics or differences which can be considered as relative strengths or limitations, in relation to potential use.

Table 2 describes the main characteristics and important considerations in regard to potential use.

Table 2: Characteristics of the different measures of consumer price inflation

```
.tg {border-collapse:collapse;border-spacing:0;} .tg td{font-family:Arial, sans-serif;font-size:14px;
padding:10px 5px;border-style:solid;border-width:1px;overflow:hidden;word-break:normal;border-
color:black;} .tg th{font-family:Arial, sans-serif;font-size:14px;font-weight:normal;padding:10px 5px;
border-style:solid;border-width:1px;overflow:hidden;word-break:normal;border-color:black;} .tg .tg-
yw4l{vertical-align:top}
```

Characteristic Description		Main considerations in relation to use	CPI	CPIH	RPI
Population base	Population covered by the indices	Consumer Prices Index including owner occupiers' housing costs (CPIH) and Consumer Prices Index (CPI), compared with the Retail Prices Index (RPI) have a different population base.		Includes expenditure by private and institutional households (for example, residential homes) in the UK and includes expenditure by foreign visitors to the UK. Excludes UK resident spending overseas.	Includes expenditure by private households but excludes households whose income lies within the top 4% of the income distribution and pensioner households with at least three-quarters of their income coming from State Pensions and benefits. Excludes spending by foreign visitors to the UK.
Expenditure data (or weights)	Source of the expenditure data used to calculate the weights	The CPIH and the CPI, compared with the RPI, have a different source of expenditure data.		Expenditure data (or weights) are derived in the main from the final household consumption expenditure component of the UK National Accounts.	Expenditure data (or weights) are derived in the main from our Living Costs and Food Survey (LCF).

Commodity coverage	The goods and services included in the indices	Although there is a great deal of overlap, there are some differences in the commodity coverage of CPIH, CPI and RPI.	Covers a number of items excluded from the RPI, including university accommodation fees and foreign students' tuition fees. Does not include owner occupiers' housing costs (OOH) or Council Tax.	Covers a number of items excluded from the RPI, including university accommodation fees and foreign students' tuition fees. Includes owner occupiers' housing costs (OOH) and Council Tax.	Covers a number of items excluded from the CPI, including: Council Tax; mortgage interest payments; house depreciation; buildings insurance; ground rent; and other house purchasing costs such as estate agents' and conveyancing fees.
Historical time series	Available time series	The CPI currently has a longer time series than CPIH, although a historic series for CPIH is currently under development. Initially this will be from 1987, to be extended to 1950. RPI has the longest time series.	Launched in 1996. A historical time series is available from 1950.	Launched in March 2013. A historical time series is available from 2005, with plans to extend this.	Launched in 1947 with the first official estimated being produced in January 1956.

National Statistic status	Status of the statistic in accordance with the Code of Practice for Official Statistics	The National Statistics status of the statistics, which indicates whether or not a statistic is compiled in accordance with the Code of Practice for Official Statistics, should be an important consideration for users.	National Statistic The CPI was reassessed against the Code of Practice for Official Statistics in 2013 and the UK Statistics Authority confirmed its designation as a National Statistic.	National Statistic The CPIH was reassessed against the Code of Practice for Official Statistics in 2016 and the UK Statistics Authority confirmed its designation as a National Statistic in July 2017.	Official Statistic The RPI was assessed against the Code of Practice for Official Statistics in 2013 and the UK Statistics Authority cancelled its designation as a National Statistic because: i) the methods used to produce the RPI are not consistent with internationally recognised best practices; and ii) it was decided to freeze the methods used to produce the RPI, and only to undertake "routine changes".
------------------------------	---	--	--	--	---

Governing legislation	Legislation regulating the production of the indices	Legislation may be an important consideration for some users.	<p>Governed by a series of legally binding regulations drafted by the European Commission (Eurostat) in conjunction with EU member states.</p> <p>The UK can only make certain changes to the CPI within the bounds of the European regulation.</p>	No governing legislation	<p>Governed by the Statistics and Registration Services Act 2007. Any methodological changes to the RPI require the approval of the UK Statistics Authority Board before being referred to the Bank of England. If the Bank of England considers the change fundamental and materially detrimental to the interests of the holders of certain index-linked gilts, then the consent of the Chancellor of the Exchequer is also required.</p>
-----------------------	--	---	---	--------------------------	---

Elementary aggregate formulae	Formulae used to combine prices at the first stage of aggregation called the "elementary aggregate". In the UK there are three formulae used; two of these use arithmetic averages (means) known as the Dutot (or ratio of average prices) and the Carli (or average price changes). The third formula is a geometric average called the Jevons.	In constructing consumer price indices most statistical institutes choose between two formulae, the Dutot or Jevons. The RPI also uses the Carli formula. The Carli formula used to produce the RPI does not meet international standards and in 2013 its National Statistics status was removed. This should be an important consideration for users of these statistics.	Jevons with some use of Dutot.	Carli and Dutot.
Price collection	The timing of the price collection	The approach to the collection of prices may be a consideration for users.	Intended to reflect prices over at least one working week at or near the middle of the reference month. In practice the collection is the same as the RPI collection except for petrol and oil, and fruit and vegetables. Prices for petrol and oil can exhibit particularly volatile price movements and for the CPIH and CPI are averaged over the month.	Intended to reflect prices on a particular day of each month (Index Day). In practice the collection is the same as the CPIH and CPI except for petrol and oil, and fruit and vegetables, which are also collected on Index Day in the RPI.

Revisions	The process of revising inflation figures once published.	Whether figures are likely to be revised may influence the use of these and other economic statistics.	While CPI can in theory be revised in exceptional circumstances, it has not been revised since its introduction in 1996.	The revisions policy for CPIH is the same as for CPI, although it has been revised twice since its launch in 2013. The first revision was in 2015, which incorporated improvements to the measurement of owner occupiers' housing costs. The second was in 2017, incorporating Council Tax and revised weights for owner occupiers' housing costs. In both cases, the full back series was revised. These changes were undertaken when CPIH was not a National Statistic, and from this point we do not expect to make further revisions.	Once the RPI indices are published they are never revised.
Rounding	How and where rounding is used in the indices	The approach to rounding may be a consideration for users.	Monthly and 12-month rates of change are calculated using unrounded indices.	Monthly and 12-month rates of change are calculated using published estimates and so are based on estimates to one decimal place.	

Product coding	Classification system used for the aggregation and publication of results	The number of categories published or how products are grouped together may impact on specific uses.	Based on an internationally recognised system classifying household expenditures, known as the Classification of Individual Consumption by Purpose (COICOP).	Based on a long- standing classification system unique to the UK, specified and developed by the RPI Advisory Committee.	
Insurance	The treatment of insurance	The approach to how insurance is calculated may be a consideration for users.	When calculating the weights, the difference between expenditure on insurance premiums and the amount paid out in claims (that is, the service charge) is allocated to the relevant insurance heading; the amount paid out in claims is allocated to other relevant headings according to the nature of the claims.	The gross expenditure on insurance premiums is assigned to the relevant insurance heading.	
Owner occupiers' housing costs (OOH)	The treatment of costs of housing services associated with owning, maintaining and living in one's own home. OOH does not include costs such as utility bills, minor repairs and maintenance, which are already included in the consumer price inflation statistics.	The CPIH and the RPI use a different method to measure OOH costs. We consider the approach used in the RPI to be a shortcoming of the index, as it captures asset prices and the cost of finance, whereas the approach used in CPIH captures only the cost of housing services. The article Shortcomings of the RPI as a measure of inflation provides more information.	OOH is excluded from the CPI	Measured using the rental equivalence approach, which uses the rent paid for an equivalent house as a proxy for the costs faced by an owner occupier.	Includes mortgage interest payments (MIPs), house depreciation, buildings insurance and other house purchasing costs, such as estate agents' and conveyancing fees.