

Statistical Notice

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Coverage: United Kingdom
Theme: Economy

DWP Family and Household Income Statistics – adjusting for inflation

This Statistical Notice outlines DWP plans to engage with users on our future approach for adjusting for inflation in the Households Below Average Income (HBAI), Family Resources Survey (FRS) and Pensioners Income Series (PI) data and publications.

In summary:

- The HBAI, FRS and PI data use variants of the Retail Prices Index (RPI) to adjust for inflation. DWP is aware that in January 2013 the National Statistician announced, following a review and consultation, that the formula used to produce the RPI did not meet international standards and recommended that a new index be published (RPIJ) using the Jevons¹ formula.
- There are a range of indices which seek to measure inflation, but there are differences in their coverage, calculation and population base.
- In response to the announcement regarding the limitations of the RPI, DWP plans to engage with users of the HBAI, FRS and PI data and publications, to explore whether the adoption of an alternative index to RPI would be appropriate, taking into account user needs, data availability and methodological issues.
- DWP will set up an HBAI Technical Advisory Group, made up of external stakeholders and government analysts with an interest in DWP household and family income statistics. The Technical Advisory Group will consider the various options, and make recommendations to DWP's Statistics Head of Profession by the end of 2013.

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¹ This is a geometric formula, whereas the RPI uses the Carli which is an arithmetic formula. These formulae are used at the elementary aggregate level (i.e. the first stage of calculation where no weighting data are available). At higher levels of aggregation weighted averages are used.

Background

There are a range of indices which seek to measure inflation, but there are differences in their coverage, calculation and population base. The HBAI, FRS and PI use variants of Retail Prices Index (RPI) to adjust for inflation:

- as a within year deflator (to ensure that the incomes of households surveyed at the beginning of the year are comparable in terms of purchasing power to those at the end of the year);
- to look at how incomes are changing over time in real terms, i.e. in comparison to inflation; and
- to uprate the absolute low income threshold, which from the 2011/12 HBAI publication is based on 50/60/70 per cent of the 2010/11 median income uprated to account for inflation.

The DWP is aware that in January 2013 the National Statistician announced, following a review and consultation, that the formula² used to produce the RPI did not meet international standards and recommended that a new index be published (RPIJ) using the Jevons formula². The National Statistician also noted that there was significant value to users in maintaining the continuity of the existing RPI's long time series without major change, so that it may continue to be used for long-term indexation and for index-linked gilts and bonds in accordance with user expectations. In accordance with the Statistics and Registration Service Act 2007, RPI and its derivatives have been assessed against the Code of Practice for Official Statistics and found not to meet the required standard for designation as National Statistics. A full report can be found on the [UK Statistics Authority website](#). In response to this announcement regarding the limitations of RPI, and in line with the Code of Practice for Official Statistics, DWP plans to engage with users of HBAI data and publications in the second half of 2013, to explore whether the adoption of an alternative index would be appropriate, taking into account user needs, data availability and methodological issues.

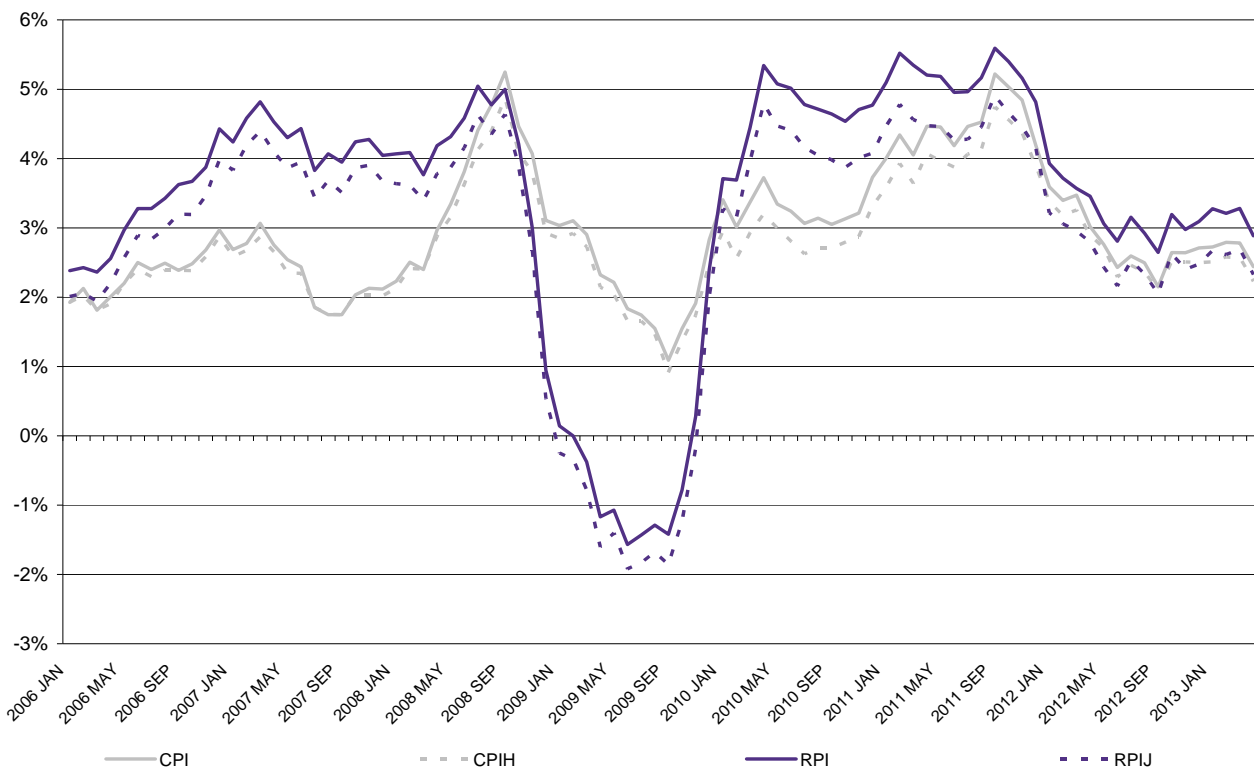
There are a range of indices which seek to measure inflation, such as RPI, RPIJ, Consumer Prices Index (CPI) and CPIH, but there are differences in their coverage, calculation and population base³. The differences have resulted in different annual growth rates in the indices. To illustrate the effect of differences in calculation, in 2010/11 and 2011/12 the annual growth in the RPI was 0.7 percentage points higher than the RPIJ. In earlier years the difference was slightly lower, at 0.3 to 0.4 percentage points. There are coverage, calculation and population differences between CPI and RPI. Figure 1 shows the 12-month rates for RPI, RPIJ, CPI and CPIH, 2006 to 2013.

The differences between indices will therefore have an effect on the statistics on real terms income trends and the number and percentage of people in absolute low income.

² There is typically no information available on households' expenditure at the level of the elementary aggregate. Because of this it is necessary to average prices of items together using an unweighted approach. RPI uses arithmetic averages (means) for elementary aggregates whereas RPIJ and CPI use a mixture of arithmetic and geometric averages. At higher levels of aggregation weighted averages are used. See Annex C of the "Options for Improving RPI Consultation" document for further details. <http://www.ons.gov.uk/ons/about-ons/user-engagement/consultations-and-surveys/archived-consultations/2012/national-statistician-s-consultation-on-options-for-improving-the-retail-prices-index/index.html>

³ The ONS web-site provides further information on consumer price indices. <http://www.ons.gov.uk/ons/guide-method/user-guidance/prices/cpi-and-rpi/index.html>

Figure 1: Inflation measures, 12 month rates 2006 to 2013, United Kingdom



Source: Office for National Statistics

The different inflation measures⁴

There are a range of indices which seek to measure inflation (such as RPI, RPIJ, CPI and CPIH), but there are differences in their coverage, calculation and population base.

Before Housing Costs (BHC) incomes in HBAI, FRS and PI are currently adjusted for inflation using a bespoke index supplied by the Office for National Statistics (ONS), consisting of RPI excluding Council Tax, while all After Housing Costs (AHC) incomes are currently adjusted for inflation using the published Retail Prices Index excluding housing.

RPI

RPI was introduced in 1947. It measures the average price change on the basis of the changed expenditure of maintaining the consumption pattern of households and the composition of the consumer population in the base or reference period. It uses the Carli and Dutot⁵ formulae at the elementary aggregate level. RPI and its derivatives have been assessed against the Code of Practice for Official Statistics and found not to meet the required standard for designation as National Statistics because:

- the methods used to produce the RPI are not consistent with internationally recognised best practices; and
- of the decision to freeze the methods used to produce the RPI, and only to contemplate 'routine' changes.

The scope and coverage of RPI are those goods and services which are based largely on the ONS's Living Costs and Food Survey (LCF). The coverage of goods and services is similar to the CPI, although the RPI includes council tax, mortgage interest payments,

⁴ The ONS web-site provides further information on consumer price indices. <http://www.ons.gov.uk/ons/guide-method/user-guidance/prices/cpi-and-rpi/index.html>

⁵ The Dutot formula is the ratio of average prices and is calculated by dividing the arithmetic average price in one period by the arithmetic average price in a reference period.

house depreciation, buildings insurance, ground rent and other house purchase costs such as estate agents' and conveyancing fees, whereas CPI does not. RPI excludes university accommodation fees, foreign students' university tuition fees and unit trust and stock broker charges. Direct taxes, national insurance contributions, cash gifts and gambling are excluded from the scope of RPI.

Purchase without a mortgage and capital repayments of a mortgage are excluded as these could represent the acquisition of a major capital asset rather than consumption.

Like CPI, no account is taken in RPI of services free at the point of consumption, even if consumers have paid for them indirectly through taxes or national insurance contributions. Charges made at the point of consumption, such as the supply of prescription medicines, are included, which is consistent with CPI.

The reference population of RPI comprises all private households (i.e. not those living in institutions such as prisons, retirement homes or student accommodation) excluding households where the head of the household is retired (at least 65 years of age for men and 60 years or more for women) and economically inactive, and where at least three quarters of the household's income is from state benefits; and high-income households, defined as those households whose total household income lies within the top 4% of all households, as measured by the Living Costs and Food Survey (LCF). Unlike CPI, RPI also excludes foreign visitors to the UK, but it includes UK residents' spending abroad.

RPIJ

An improved variant of RPI has been published from March 2013 using a geometric formulation (Jevons) at the elementary aggregate level, known as RPIJ. Replacing the Carli with the Jevons at the elementary aggregate level in RPIJ results in it generating estimates of inflation that are lower than or equal to RPI, because of the use of different formulae at the first stage of construction of price indices. The primary objective for RPIJ is to show the impact of the use of the Carli in RPI. RPIJ is available at the all items level only, and therefore includes housing costs as defined in the all items RPI, as well as council tax. ONS currently classifies RPIJ as an experimental statistic. It is being assessed for National Statistics status by the assessment team of the UK Statistics Authority and is not currently a National Statistic. The assessment is expected to be completed by the summer of 2013.

RPIJ was introduced in March 2013, and includes historical data 1997-2012.

CPI

CPI is a consumer inflation index defined as an average measure of change in the prices of goods and services bought for the purpose of consumption by households in the UK and foreign visitors to the UK. CPI coverage excludes housing costs such as council tax, mortgage interest payments, house depreciation, buildings insurance, ground rent and other house purchase costs such as estate agents' and conveyancing fees. All these costs are included in the all items RPI. CPI includes rental costs.

Expenditure for savings and investment purposes, direct taxes, national insurance contributions, cash gifts and gambling are excluded from the scope of the CPI. CPI measures the price of goods and services paid for by consumers. No account is taken in CPI of services free at the point of consumption, even if consumers have paid for them indirectly through taxes or national insurance contributions. For some goods and services provided or partly paid for by the Government, a charge is made at the point of consumption, such as the supply of prescription medicines and dental treatment under the NHS. These charges are included in CPI but not the full economic cost of goods or services.

CPI covers all private households, foreign visitors to the UK and residents of communal establishments such as university halls of residence, retirement homes and nursing homes. Expenditure by UK households abroad is excluded.

CPI was introduced in 1996. Growth rates for the CPI and its main component indices are available for the period from 1989 until the present day. ONS have modelled a back series for CPI growth to 1949.

CPIH

CPIH is a new additional measure of consumer price inflation including a measure of owner occupiers' housing (OOH) costs. OOH costs are the costs associated with owning, maintaining and living in one's own home. CPIH uses an approach called rental equivalence to measure OOH costs. Rental equivalence uses the rent paid for an equivalent house in the private sector as a proxy for the costs faced by an owner occupier. In other words this answers the question "how much would I have to pay in rent to live in a home like mine?" for an owner occupier. ONS currently classifies CPIH as an experimental statistic. It is being assessed for National Statistics status by the assessment team of the UK Statistics Authority and is not currently a National Statistic. The assessment is expected to be completed by the summer of 2013.

The definition, scope, coverage, reference population and expenditure items are as with all items CPI, with the addition of OOH costs.

CPIH was introduced in March 2013, and includes historical data 2005-2012.

The way forward

DWP considers that an ideal inflation index for measuring real term changes in DWP household and family income statistics would:

- reflect the items the income needs to pay for;
- would have variants suitable for both BHC and AHC measures of income;
- would cover the whole population of interest (private households);
- would be available for the full length of historical data (back to 1994/95); and
- have National Statistics designation.

DWP will set up an HBAI Technical Advisory Group, made up of external stakeholders and government analysts with an interest in DWP household and family income statistics. The Technical Advisory Group will consider whether the adoption of an alternative index to RPI would be appropriate, taking into account user needs, data availability and methodological issues, and make recommendations to DWP's Statistics Head of Profession by the end of 2013.

It is envisaged that the HBAI Technical Advisory Group will meet twice during 2013, with other business being handled by correspondence.

Comments

If you have any views or comments please send them to: team.hbai@dwpgsi.gov.uk