



Department
for Work &
Pensions

Pensioners' Incomes Series

United Kingdom, 2014/15

Background information and methodology

June 2016

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Background

Purpose of the statistics

The Pensioners' Incomes (PI) Series

The Pensioners' Incomes (PI) series contains estimates of the levels, sources and distribution of pensioners' incomes. It also examines the position of single pensioners and pensioner couples, and any dependent children, within the income distribution of the population as a whole. This analysis contrasts with that done in Households Below Average Income (HBAI) where consideration is on a household basis and would include income of other adults not in the pensioner unit but living in that household.

This key source of information is used to inform Government thinking on relevant policies, as well as related programmes and projects. Researchers and analysts outside government use the statistics and data to examine topics such as ageing, distributional impacts of fiscal policies and the income profiles of pensioner groups. Estimates in PI (as HBAI) are based on data from the Family Resources Survey (FRS).

PI annual reports and accompanying tables, research and technical papers are available here:

<https://www.gov.uk/government/collections/pensioners-incomes-series-statistics--3>

Versions of the dataset are available on the UK Data Service here:

<http://discover.ukdataservice.ac.uk/series/?sn=200017>

Context of the statistics

Pensioners are an increasingly large and diverse group in the population. They are affected differently by economic and policy changes than working-age people. There are a number of reforms affecting current and future pensioners at this time, including:

- Equalisation of state pension age;
- Increasing state pension age;
- Pension freedoms;
- New state pension, and
- Private pension reforms including automatic enrolment.

This publication helps to illustrate changes in pensioners' incomes over time and puts the results in the context of both economic and policy changes.

Pensioner demographics

The 2011 Census reported that there were 12.2 million people of State Pension age (SPa) in the UK or approximately one in five of the total population. Females made up the majority (62 per cent) of those aged over SPa, however this is expected to fall in line with the planned equalisation of the State Pension age (SPa for women will be increased from 60 to 65 by 2018 under the Pensions Act 2011).

Population growth amongst pensioners has outstripped that of the working-age population. This is due to factors such as overall lower mortality rates and higher life expectancy, as well as lower fertility rates within the working-age population. ONS population estimates for mid-2014 found that there were 11.4 million people aged 65 and over, representing 17.7 per cent of the population¹. ONS population projections estimate that, despite the increases in SPa, this number will increase by 32.7 per cent to 16.5 million in 2039². This reflects the large number of people born in the 1960s moving into older age groups.

The number of older people within the older age groups is also expected to increase, with the number of individuals aged 75 and over expected to increase by 89.3 per cent to 9.9 million by mid-2039. The number of individuals aged 85 and over is also expected to more than double, growing to 3.6 million by mid-2039.³ By mid-2039 it is estimated that 1 in 12 of the population will be aged over 80.

The employment rate among those aged 65 and over is increasing. In April to June 2004 the employment rate for this group was 6 per cent. By the end of the year for which data was collected (January to March 2015) this had increased further to 10.8 per cent. This change is likely to be due to a combination of economic pressures and changing attitudes⁴, as well as policy factors such as the abolition of the default retirement age.

Home ownership continues to be higher for the over 65s compared to those of working age (75 per cent of those aged over 65s own their own home compared to 61 per cent of those of working age, Census 2011). This distinction is even more pronounced when comparing outright ownership to ownership with a loan or mortgage.

Status of the statistics

National statistics

The United Kingdom Statistics Authority has designated these statistics as National Statistics, in accordance with the Statistics and Registration Service Act 2007 and signifying compliance with the Code of Practice for Official Statistics.

¹ [ONS Annual Mid-year Population Estimates: 2014](#)

² [ONS National Population Projections 2014](#)

³ [ONS National Population Projections 2014](#)

⁴ Research found that over half (56%) of over 50s who were not yet retired had changed their expected retirement age in recent years. Nearly half of these (49%) now thought that they would retire later, compared to 7% who thought that they would retire earlier. [Attitudes of the over 50s to Fuller Working Lives, DWP, 2015](#).

Designation can broadly be interpreted to mean that the statistics:

- meet identified user needs;
- are well explained and readily accessible;
- are produced according to sound methods; and
- are managed impartially and objectively in the public interest.

Once statistics have been designated as National Statistics it is a statutory requirement that the Code of Practice shall continue to be observed.

All official statistics from the Pensioners' Incomes Series for the UK and constituent countries in this publication are considered by DWP as "Fully Comparable at level A*" of the UK Countries Comparability Scale across countries.

Further information about national statistics can be found at:

<https://www.statisticsauthority.gov.uk/national-statistician/types-of-official-statistics/>

Quality Statement

The Households Below Average Income (HBAI) dataset upon which the Pensioners' Incomes (PI) Series is based undergoes substantial checking and verification. This is carried out both internally within DWP, and externally by the Institute of Fiscal Studies (IFS). When producing charts and tables for the publication, all content is independently quality assured by different members of the PI team to ensure methodology is robust. All commentary in the PI report is reviewed by the PI team and analysts from the relevant policy areas within DWP to ensure the information presented is accurate and meets user needs.

Feedback

If you have any comments or questions, please contact:

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Points to note when using PI

Data sources

The Family Resources Survey

The Family Resources Survey (FRS) is the main underlying data source for PI. It is one of the largest cross-sectional household surveys in the United Kingdom. The focus of the FRS is on capturing information on household incomes and, as such, is the foremost source of income data and provides more detail on different income sources than other household surveys. It also captures a lot of contextual information on the household and individual circumstances, such as employment, education level and disability. It is therefore a very comprehensive data source allowing for a range of different analysis.

The PI publication is based on the FRS derived Households Below Average Income (HBAI) dataset. The HBAI publication makes an adjustment for households with very high incomes as the FRS under-records information about these households. The HBAI 2014/15 Background information and methodology report provides further details on this and other topics.

The FRS is based on financial years, and data are not available prior to 1994/95.

Sample size: From April 2011, the target achieved GB sample size for the FRS was reduced by 5,000 households, resulting in an overall achieved sample size for the UK of around 20,000 households for 2011/12 onwards. A published assessment concluded that this reduced sample still allows the core outputs from the FRS to be produced (such as the individual measure of income in PI).

Coverage: Until 2001/02 the FRS covered Great Britain. From 2002/03 this was extended to cover all of the United Kingdom. Caution should therefore be taken when comparing results across these years.

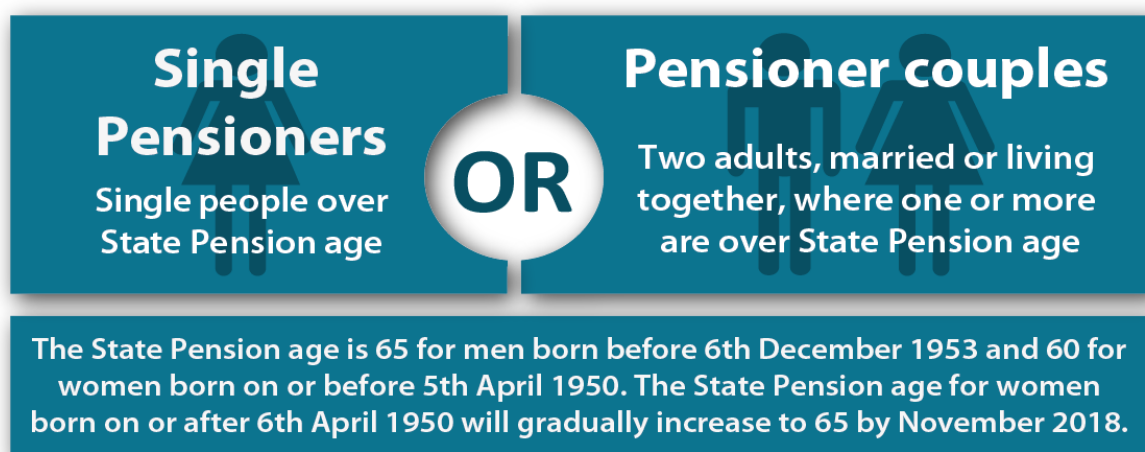
Definitions and terminology

Pensioner units

The Pensioners' Incomes Series provides analysis on pensioner benefit units (known as pensioner units), which include:

- Single pensioners: individuals over State Pension Age (SPa).
- Pensioner couples: married or cohabiting pensioners where one or more are over SPa.
- Income related to any dependent children in pensioner units.

In 2014/15 the SPa for men was 65. For women, SPa was 62 at the beginning of the 2014/15 financial year and had risen to 62 and a half by the end of the financial year.



Age of pensioner units

For analysis of pensioner units by age, pensioner couples are categorised by the age of the Head. The Head of the pensioner unit is either the Household Reference Person (see below) if they belong to the pensioner unit, or if not it is the first person from the pensioner unit in the order that they were named in the interview.

The Household Reference Person (HRP) is the householder with the highest income, without regard to gender.

- In a single adult household, the HRP is the sole householder (i.e. the person in whose name the accommodation is owned or rented).
- If there are two or more householders, the HRP is the householder with the highest personal income from all sources. In households where there is one person under SPa and one person over SPa, it is possible that the younger person may be the HRP as they are more likely to be working, and therefore have a higher income.
- If there are two or more householders who have the same income, the HRP is the eldest householder.

In Pensioners' Incomes Series the category of **Recently Retired Pensioners** is used. This is an age definition and refers to pensioner units where the head is within 5 years of the current SPa. For 2014/15 this includes women aged between 62 and 66 and men aged 65-69. Recently retired pensioner units are included in the 'Under 75' age group.

Income

PI estimates do not reflect income from other adults and their dependent children in a household; therefore if a pensioner lives with their adult children, for example, the younger adult's income is not included in this analysis.

Estimates are based on unequivalised income. Equivalisation makes an adjustment to income to improve its use as a measure of living standards, and is used in the Households Below Average Income (HBAI) publication – see below.

Income measures

Gross income: In the PI Series, gross income is generally separated into six components:

1. **Income from benefits** – including tax credits;

In some instances this is further divided into:

- State Pension – Basic and Additional State Pensions, Widow's Pension and Widowed Parent's Allowance,
- Income-related benefits – Pension Credit, Housing Benefit, Council Tax Reduction, Social Fund Grants and Tax Credits,
- Disability benefits – Disability Living Allowance, Attendance Allowance, Employment and Support Allowance, Incapacity Benefit, Industrial Injuries Disablement Benefit, War Disablement Pension and Personal Independence Payment

These three benefit types are not exhaustive – there are benefits, such as Winter Fuel Payments and Carers' Allowance, which do not fit into any of these categories but are included in total benefit income.

2. **Income from occupational pensions** – employee pensions associated with an employer and workplace;
3. **Income from personal pensions** – personal pensions, annuities bought with lump sums from personal pensions, trade union and friendly society pensions;

The sum of occupational (2) and personal pensions (3) is income from **private pensions**.

4. **Income from investments** – including interest from Individual Savings Accounts (ISAs) and other savings accounts, unit trusts, bonds, stocks and shares;
5. **Income from earnings** – including employee earnings and profit and loss from self-employment;
6. **Other income** – benefits from friendly societies, income [received for] or [received in respect of] dependent children, maintenance payments and, from November 2000, free TV licences for those aged 75 and over.

More information about the different income sources can be found in the glossary at the end of this document.

Net income Before Housing Costs (BHC) is gross income less:

- Income tax payments;
- National Insurance contributions;
- Contributions to occupational and private pension schemes;
- Local taxes (i.e. council tax/domestic rates);
- Maintenance and child support payments;
- Student loan repayments, and;

- Parental contributions to students living away from home.

Net income After Housing Costs (AHC) is derived by deducting a measure of housing costs from the above income measure and is also net of:

- Rent (gross of housing benefits);
- Water rates, community water charges and council water charges;
- Structural insurance premiums (for owner occupiers);
- Mortgage interest payments (net of any tax relief), and;
- Ground rent and service charges.

Income from Housing Benefit is included within gross income as an income-related benefit.

Capital mortgage repayments are also not deducted as a Housing Cost as this is regarded as an asset being accrued and not a cost.

Interpretation of Estimates

Use.....	If.....
Gross	<ul style="list-style-type: none"> • Interested in how much income pensioners receive before any taxes are applied • Interested in different sources of income
Net	<ul style="list-style-type: none"> • Interested in income available for pensioners to spend (excluding the income of other household members), either Before or After housing costs
Mean	<ul style="list-style-type: none"> • Interested in all income available to pensioner units in a particular group • Do not consider the influence of the highest incomes to be a major problem • Interested in breaking down income by source
Median	<ul style="list-style-type: none"> • Interested in the income of the 'typical' pensioner unit • Do not want the average distorted by a small number of high incomes • Looking at distributions of incomes
Average (mean or median) for all	<ul style="list-style-type: none"> • Interested in all income available to pensioner units • Want to include those with no income from a particular source
Average (mean or median) for those in receipt	<ul style="list-style-type: none"> • Interested in the average 'rate' at which people receive income from a particular source • Interested in an individual source of income

All pensioner units	<ul style="list-style-type: none"> Interested in broad trends in cash amounts for pensioners (both in couples and singles) as a whole
Singles and couples separately	<ul style="list-style-type: none"> Comparing subgroups that contain different proportions of singles and couples Looking at distributions of income
After housing costs	<ul style="list-style-type: none"> Interested in the income available for pensioners to spend after their housing costs have been met Considering changes in this net income over time Comparing pensioners incomes with working age incomes
Before housing costs	<ul style="list-style-type: none"> Interested in total net income

Measuring living standards

Incomes are often used as a measure of the 'standard of living' achieved by different groups. However, there are many other factors that can affect living standards, such as wealth, physical health and expenditure. These factors are not considered in this report. Furthermore, estimates of incomes in the Pensioners' Incomes Series do not take account of the income of other adult members of the household or their dependents, and they are not adjusted for single pensioners compared to couples (equivalisation), which could affect pensioners' standards of living. Income estimates should therefore only be regarded as broadly indicative of pensioners' overall living standards.

Material deprivation for pensioners, an additional indicator for measuring living standards, has been included in the HBAI publication since 2009/10 and is derived from a suite of questions in the FRS. A final score is calculated from the set of questions and compared with a threshold score to determine whether a pensioner is in material deprivation.

For details of the material deprivation indicator, see: [Department for Work and Pensions Working Paper Number 54](#). For the latest result on the percentage of pensioners in low-income households and material deprivation, see the [2014/15 Households Below Average Income report](#).

Differences by age

PI 2014/15 finds that there are differences in average incomes between age groups. There are a number of reasons for this which should be noted when interpreting these results:

- The 'age' effect:** Older pensioners are less likely to be in work and hence receive a smaller amount from earnings. Any pension(s) they may be in receipt of are usually a proportion of what they would have earned.

- **The 'cohort' effect:** The rapid rise in occupational pension coverage in the 1950s and 1960s will have been more beneficial to later cohorts, and the significant and almost constant increase in real earnings over the past few decades – apart from the years following the 2008 recession – have led to increases in disposable income that can be saved in private pensions or invested (e.g. in property). Currently, each successive cohort of pensioners has a higher income than the older cohort it effectively replaces, and thus pushes up the average income of the pensioner group as a whole.
- **The length of time since retirement:** Pensions generally increase by less generous uprating measures after retirement. In addition, most annuities purchased with occupational or personal pensions are level annuities, which do not increase over time. Income in real terms is therefore decreasing for these annuities once inflation is taken into account.

Methods

Detailed information on the production of the FRS dataset can be found in the 2014/15 FRS Background information and methodology report. This includes information on the survey design, collection and quality assurance processes.

Grossing

Grossing-up is the term usually given to the process of applying factors to sample data so that they yield estimates of the overall population. Estimates in the PI publication incorporate the 2011 Census based mid-year population estimates into the grossing regime from 2012/13 onwards. A consistent back series has been produced from 2002/03 to 2011/12.

In addition to the use of 2011 Census data, a number of minor methodological changes have also been implemented in the FRS dataset. These methodological changes were made on the recommendation of the ONS Methodological Advisory Service during an Initial Review of the FRS weighting scheme. A [report of the changes made to the grossing regime is available](#).

Adjustment for individuals with very high incomes

An adjustment is made to sample cases at the top of the income distribution to correct for volatility in the highest incomes captured in the survey. This adjustment uses data from [HM Revenue and Customs Survey of Personal Incomes \(SPI\)](#) to control the numbers and income levels of the 'very rich' while retaining the FRS data on the characteristics of the households. For 2014/15, pensioners in Great Britain are subject to the SPI adjustment if their gross income exceeded £76,993 per year (£65,527 in Northern Ireland). For more details see the [2014/15 HBAI Background information and methodology report](#).

Negative incomes

Negative incomes are not thought to be indicative of standards of living. Pensioner units with negative net income Before Housing Costs have the gross income

components of income, and their net income Before Housing Costs, set to zero. Net income After Housing Costs is set to zero minus housing costs, and so for a small number of cases will be negative. See the [PI methodological paper number two](#) for more information on negative incomes.

Output standards for ethnic groups

The Pensioners' Incomes Series 2014/15 publication has adopted the latest harmonised output standards for ethnic groups for the UK, however 'mixed' and 'other' ethnic groups have been merged together due to small sample sizes. The latest harmonised standards were published in August 2011 and cover the ethnic group question in England, Wales, Scotland and Northern Ireland. They also cover harmonised data presentation for ethnic group outputs. The standards were updated in February 2013 detailing how Gypsy, Traveller and Irish Traveller should be recorded in the outputs, due to differences across the UK.

For further details please see the ONS harmonised concept for ethnic groups.

Further information

A collection of methodological papers on the PI series are available here: http://webarchive.nationalarchives.gov.uk/20130513214236/http://statistics.dwp.gov.uk/asd/index.php?page=pensioners_income_arc. These include papers on negative incomes, personal pension income, and definitions of pensioner units.

Strengths of the statistics

- The FRS captures more detail on different income sources compared to other household surveys.
- The relatively long time series available which means that trends can be assessed going back to 1994/95.

Limitations of the statistics

This publication is based on survey data. It is therefore subject to potential limitations inherent in all surveys, including:

- **Sampling error:** This will vary to a greater or lesser extent depending on the level of disaggregation at which results are presented.
- **Non-response error:** Systematic bias due to non-response by households selected for interview in the FRS. In an attempt to correct for differential non-response, estimates are weighted using population totals.
- **Survey coverage:** The FRS covers private households in the UK. Therefore individuals in nursing or retirement homes, for example, will not be included. This means that figures relating to the most elderly individuals may not be representative of the United Kingdom population, as some individuals in this age group will have moved into homes where they can receive more frequent help.
- **Survey design:** The FRS uses a clustered sample design to produce robust regional estimates. The FRS is therefore not suitable for analysis below region level.

- **Sample size:** Although the FRS has a relatively large sample size for a household survey, small sample sizes may require several years of data to be combined for some analysis.
- **Under reporting of benefit receipt:** Relative to administrative records, the FRS is known to under-report benefit receipt. However, the FRS is considered to be the best source for looking at benefit and tax credit receipt by characteristics not captured on administrative sources, and for looking at total benefit receipt on a benefit unit or household basis. It is often inappropriate to look at benefit receipt on an individual basis because means-tested benefits are paid on behalf of the benefit unit. For further information on the under-reporting of benefit receipt, see the 2014/15 FRS Background information and methodology report.

Households Below Average Income (HBAI) and the Pensioners' Incomes Series

Three of the tables in the PI publication provide information on the position of pensioners within the overall income distribution. These tables define pensioners as adults in families where at least one member is over SPa, consistent with the rest of the PI publication. This is different to the definition used in the Households Below Average Income (HBAI) which defines pensioners as those over SPa.

Results from HBAI should not be directly compared to those from PI. The main differences between HBAI and PI methods of analysis are:

Income components: The PI results include analysis of the components of pensioner unit income (benefit income, occupational pension etc). HBAI, with its broader span of interests, does not present detailed analysis of this sort.

Household or pensioner unit: The PI series is generally concerned with cash incomes directly received by pensioners. It measures the income of pensioner benefit units only (plus income for any dependent children within the pensioner unit), ignoring income received by any other members of the household. HBAI attempts to measure material living standards, so it takes account of all the income coming into the household where the pensioner lives; the underlying HBAI assumption being that the total household income is shared amongst all household members.

Equivalisation: To allow comparison of living standards of different households, the HBAI 'equivalises' household income – that is, adjusts it to take account of household size and composition. One of the main functions of the PI series is to provide information on the income of pensioner units in monetary terms, split by sources of income. This can only be done using unequivalised income. Equivalisation is not necessary for most results, which are presented separately for pensioner couples and single pensioners. To avoid unnecessary complexity, the main PI results are presented in monetary terms, at constant 2014/15 prices, rather than equivalised income at 2014/15 prices. PI does however use equivalised income to analyse pensioners' position in the overall population income distribution.

Equivalisation Scales: HBAI has historically used the McClements equivalisation scale. Following user consultation, the 2005/06 edition of HBAI and subsequent HBAI

publications have used Modified OECD equivalisation scales. The same change has been made to the relevant data in PI since the 2005/06 edition of the PI series. Information on the effect of the change can be found in Appendix B of the 2005/06 edition of the PI series.

Changes in PI for 2014/15

Policy changes

This section summarises some of the major benefit and tax reforms which came into effect in 2014/15. It is not intended to represent an exhaustive list.

Up-rating

In April 2014:

- The Basic State Pension was up-rated by 2.7 per cent in line with the triple lock.
- The Guarantee element of Pension Credit for singles and couples was increased by 2%.
- Changes to the threshold for Savings Credit meant the maximum amount available fell by around 7% for a single pensioner and around 9.6% for a couple.
- Working-age benefits such as Jobseeker's Allowance, Income Support, and Employment Support Allowance (work-related activity group) were up-rated by 1 per cent.
- Child benefit, along with some elements of tax credits, was uprated by 1-1.1 per cent. Family and childcare elements of tax credit were frozen in cash terms. Tax Credit elements for disabled adults and children were up-rated by 2.8-2.9 per cent.
- Disability benefits (Personal Independence Payment, Disability Living Allowance and Attendance Allowance) were up-rated by 2.6-2.7 per cent.

Housing Benefit (HB)

From April 2014 increases in most Local Housing Allowance (LHA) rates were capped at 1%.

Council Tax

In 2014/15, local authorities in England continued to benefit from the Council Tax freeze grant. This was the offer from central government of a grant to those authorities that set their basic amount of council tax either at or below the level for 2013/14.

The Department for Communities and Local Government [estimate](#) that the average Band D council tax set by local authorities in England in 2014/15 represented an increase of 0.9 per cent on 2013/14 levels.

Personal Independence Payment

The roll-out of personal independence payment gathered pace. By the end of the period, in March 2015, 400,000 Personal Independence Payment claims were in payment.

Income Tax

In 2014/15 the income tax personal allowance increased by £560 to £10,000 for those aged under 65, and was frozen at £10,500 for those aged 65-74 and at £10,660 for those aged 75 or older.

The threshold for the 40 per cent higher rate of income tax increased to £41,865 from £41,450.

Adjusting for inflation

The PI Series uses uprating factors to adjust for inflation, by bringing values from previous years into current price terms for the most recent year of the publication. As advised in a Statistical Notice⁵ published in May 2016, from 2014/15 PI has made a methodological change to use variants of CPI when adjusting for inflation. Prior to the 2014/15 PI publication variants of RPI were used to adjust for inflation.

This change follows advice from the UK National Statistician that use of RPI should be discontinued in statistical publications.

Full details on the likely effect on this methodological change, together with estimates for trends in income under both the old and new methodologies are presented in Annex 1.

Report changes

The PI report has been redesigned to include information on the same topics as previous years' reports, but in a condensed format to improve accessibility and visual representation of the statistics. Most information previously included in the main PI report is now available in this background note.

Removal of FES data

In previous years, some of the Pensioner's Incomes Series charts have included data from the Family Expenditure Survey (FES). This data covered the years 1979 to 1996/97. During the production process for PI 2014/15 it was decided that this data would no longer be included in the publication charts for a number of reasons. Firstly, it would not be possible to generate variants of the Consumer Price Index (CPI), the new measure for inflation, for the years going back to 1979 (see Annex 1 for further discussion). This would have meant that it would not have been possible to complete

⁵ <https://www.gov.uk/government/statistics/changes-to-dwp-family-and-household-income-statistics-201415-statistical-notice>

the necessary in-year deflation for these years, compromising the comparability of the data across time.

Secondly, the move to the new publication format has seen a reduction in the number of charts presented, with a focus on presenting the most interesting and relevant stories. It was agreed that these should therefore focus on the trends over the past two decades. The trends in pensioner prior to 1994/95 derived from FES data can still be found in previous years' publications.

Alternative data sources

There are other data sources that can provide information on areas of interest similar to those in the PI publication.

- [Households Below Average Income \(HBAI\)](#)

HBAI presents the number and percentage of pensioners living in low income households and material deprivation.

- [Family Resources Survey \(FRS\)](#)

The FRS publication includes pension participation for working-age individuals. This shows those who are saving for retirement and the type of pension they are saving in (occupational or personal).

- [The DWP Tabulation Tool](#) and [The DWP Stat-Xplore Tool](#)

These DWP tools provide users with access to administrative data. Users can download and analyse statistics on a range of different benefits, programmes, and other administrative information collected and stored by the department.

- [Wealth and Assets Survey \(WAS\)](#)

WAS is a large scale longitudinal survey with four waves currently published. The first wave (2006/08) had a sample of over 30,000 private households in Great Britain. The WAS dataset holds information about the economic status of households and individuals including their physical and financial assets, debts and pension provision. WAS data are also used to understand how wealth is distributed and factors which may affect financial planning, as well as respondents' attitudes and behaviours to saving. The Pension Wealth chapter in WAS provides estimates of the types of private (non-state) pension wealth, split by a wide range of socio-demographic and economic breakdowns.

- [English Longitudinal Study of Ageing \(ELSA\)](#)

ELSA is a biennial longitudinal study of the health, social and economic circumstances of an initial sample of approximately 12,000 people aged over 50 in England. ELSA started in the early 2000s and now provides longitudinal data on pensions, savings, and labour market participation. It holds information on interactions and transitions over the life courses of respondents as they grow older.

- [Occupational Pension Scheme Survey \(OPSS\)](#)

The OPSS is an annual survey, conducted by the Office for National Statistics (ONS). It covers occupational pension schemes from the public and private sector and

samples at the level of the scheme. The OPSS provides the UK's longest consistent time series for estimates of pension scheme membership, with data from 1953, and it provides estimates of the number of schemes, scheme members, and their level of contributions.

- [**ONS Annual Survey of Hours and Earnings \(ASHE\)**](#)

The ASHE is published by the ONS. It has been in place since 1997, and can be used to provide information on earnings for individuals close to or over SPa. It also collects significant information on employee pension membership and contributions. Due to the large sample size (1% of National Insurance numbers) and the fact it is completed by the employer – rather than the employee – it is generally thought to provide the most robust indicator of employee pension membership.

- [**Labour Force Survey \(LFS\)**](#)

The LFS is a continuous, large scale sample survey in which 45,000 UK households are interviewed each quarter. The survey provides information on the labour market, including employment, unemployment and economic activity rates. This source can be used to provide information on individuals close to or over SPa in the labour market.

- [**ONS- A guide to sources of data on income and earnings**](#)

The Office for National Statistics has produced a guide for users of official statistics on earnings and income. This guide compares the main sources of data available and outlines which sources will best meet their needs.

Reliability of estimates

The figures in this publication come from the Family Resources Survey. Like all surveys, it gathers information from a sample rather than from the whole population. The size of the sample and the way in which the sample is selected is carefully designed to ensure that it is representative of the UK as whole, whilst bearing in mind practical considerations like time and cost constraints. Survey results are always estimates, not precise figures. This means that they are subject to a level of uncertainty which can affect how changes, especially over the short term, should be interpreted.

Estimating and reporting uncertainty

Two different random samples from one population, for example the UK, are unlikely to give exactly the same survey results, which are likely to differ again from the results that would be obtained if the whole population was surveyed. The level of uncertainty around a survey estimate can be calculated and is commonly referred to as sampling error. In addition to sampling error the PI estimates can also be affected by other non-sampling errors. Some of these are:

- **Reporting errors:** Imperfect recall and respondents choosing to deliberately give incorrect answers are examples of reporting error. If these errors are systematic they may lead to bias in the survey estimates.
- **Under-reporting:** The FRS information on benefits relies on the respondent being able to accurately report the amount of benefit they receive. This reliance leads to under-reporting in receipt for many benefits. The discrepancies between FRS and administrative data are particularly pronounced for Employment and Support Allowance, Attendance Allowance, Carer's Allowance, Disability Living Allowance and Pension Credit.

It is also thought that household surveys underestimate income from both self-employment and investments (particularly affecting the picture for pensioners), so these figures should be treated with caution.

- **Misreporting:** The type of income received is self-reported by survey respondents, and consequently can be misreported. For example, some survey respondents may not be able to distinguish between the State Pension and Pension Credit because these benefits can be paid jointly.
- **Systematic bias:** This arises in the sample if certain groups are less likely to respond to a survey than others. This is corrected to some extent in the FRS by weighting to match subgroups of the population by age, sex, family status,

tenure, council tax band and broad geographic region. Nevertheless, it is difficult to account for all possible bias, so some results are still affected.

We can calculate the level of uncertainty around a survey estimate by exploring how that estimate would change if we were to draw many survey samples for the same time period instead of just one. This allows us to define a range around the estimate (known as a “confidence interval”) and to state how likely it is that the real value that the survey is trying to measure lies within that range. Confidence intervals are typically set up so that we can be 95% sure that the true value lies within the range – in which case this range is referred to as a “95% confidence interval”.

Measuring the size of sampling error

Accuracy of the statistics: Confidence intervals can be used as a guide to the size of sampling error. A confidence interval is a range around an estimate which states how likely it is that the real value that the survey is trying to measure lies within that range. A wider confidence interval indicates a greater uncertainty around the estimate. Generally, a smaller sample size will lead to estimates that have a wider confidence interval than estimates from larger sample sizes. This is because a smaller sample is less likely than a larger sample to reflect the characteristics of the total population and therefore there will be more uncertainty around the estimate derived from the sample.

Statistical significance: Some changes in estimates from one year to the next will be the result of different samples being chosen, whilst other changes will reflect underlying changes in income across the population. Confidence intervals can be used to identify changes in the data that are statistically significant; that is, they are unlikely to have occurred by chance due to a particular sample being chosen. Confidence intervals can give a range around the difference in a result from one year to the next. If the range does not include zero it indicates this change is unlikely to be the result of chance.

Working with uncertain estimates: Some changes between years will be small in relation to sampling variation and other sources of error and may not be statistically significant. This is relevant for particular sub-groups, as these will have smaller sample sizes than the overall survey sample size. For these sub-groups it is important to look at long-term trends.

Calculating uncertainty in the PI report

Since the 2013/14 publication confidence intervals have been calculated using a bootstrapping approach, using the statistical package SAS. This has allowed confidence intervals to be calculated for a wider range of estimates.

Bootstrapping takes into account the design of the sample. It replicates the sampling design of the survey and takes re-samples with replacement from the dataset. Multiple new samples of the dataset are created, with some samples containing multiple copies of one case with none of another. Exploring how an estimate would change if we were to draw many survey samples for the same time period instead of

just one sample allows us to generate confidence intervals around the estimate. For a more technical guide to the approach used to generate confidence intervals in this report, please see the report [Uncertainty in Family Resources Survey-based analysis](#).

Interpreting estimates of uncertainty in PI

Table M1.1 provides confidence intervals for key estimates of pensioners' incomes in 2014/15. The table shows that, while there is a degree of uncertainty about the estimates, it does not affect the broad conclusions drawn, such as the relative importance of different types of income, or the fact that single men on average have higher incomes than single women.

For example, in 2014/15, gross income for all pensioner units is estimated to be £515. We can be 95 per cent confident that the true value of gross income per week, if we were to take a census of the population, would lie between £498 and £532 (see interval range in Table M1.1).

When comparing two or more estimates, we must factor in the uncertainty surrounding each of the estimates. Table M1.2 shows the growth in sources of income between 2004/05 and 2014/15, and 2013/14 and 2014/15. Statistically significant results (at the 95 per cent confidence level) are marked with an asterisk (*). As can be seen, the confidence intervals around the estimates of various different growth rates between 2013/14 and 2014/15 often include 0. This is particularly true for smaller components of income. This means that we cannot be confident that the growth rate is different from 0, and hence the change is not statistically significant. Over short time periods it is likely that an income measure will not change dramatically, and so any uncertainty is likely to be large compared with the change itself. **Users are advised to draw conclusions from long-term trends rather than year-on-year changes.**

For growth rates between 2004/05 and 2014/15, the majority of results are statistically significant. However, even some longer-term changes need to be interpreted with care. For income sources where the amount received per week varies greatly between pensioner units, such as investment income, even long term comparisons may not be statistically significant. For more information about uncertainty around FRS derived estimates see the [uncertainty in FRS based analysis report](#).

Table M1.1: Uncertainty surrounding estimates in the Pensioners' Incomes Series 2014/15

	Estimate	95% confidence interval		
	£pw	Interval width	Relative width	Interval range
All pensioner units				
Gross income	515	34	7%	498 to 532
<i>of which</i>				
Benefit income	214	5	2%	212 to 216
Occupational pension	146	12	8%	140 to 152
Personal pension	20	5	24%	18 to 23
Investment income	41	9	21%	37 to 46
Earnings	89	22	25%	79 to 101
Other income	4	1	31%	3 to 4
Mean net income				
Before housing costs	430	22	5%	419 to 441
After housing costs	396	23	6%	385 to 408
Median net income				
Before housing costs	333	15	4%	326 to 341
After housing costs	297	16	5%	289 to 305
Subgroups of pensioners				
Mean net income BHC				
Pensioner couples	585	39	7%	567 to 606
Single pensioners	280	14	5%	274 to 288
Recently retired head	513	45	9%	489 to 535
Head under 75 years	495	34	7%	479 to 513
Head over 75 years	343	20	6%	334 to 353
Single male pensioners	296	24	8%	285 to 309
Single female pensioners	274	18	7%	266 to 284
Mean net income AHC				
Pensioner couples	556	39	7%	538 to 576
Single pensioners	244	14	6%	237 to 251
Recently retired head	476	47	10%	452 to 499
Head under 75 years	460	34	7%	443 to 478
Head over 75 years	313	19	11%	304 to 323
Single male pensioners	258	25	10%	247 to 272
Single female pensioners	238	18	7%	229 to 247

1. Interval width may not match the reported interval range due to rounding

Table M1.2: Growth in average incomes of pensioner units, 2004/05 to 2014/15, and 2013/14 to 2014/15

	2004/05	2013/14	2014/15	% growth 2004/05 to 2014/15	% growth 2013/14 to 2014/15	95% confidence interval 2004/05 to 2014/15	95% confidence interval 2013/14 to 2014/15
All pensioner units							
Gross income	432	492	515	19% *	5%	14% to 24%	0% to 9%
<i>of which</i>							
Benefit income	195	211	214	10% *	1%	8% to 11%	0% to 3%
Occupational pension	110	139	146	33% *	5%	25% to 40%	-1% to 10%
Personal pension	13	20	20	54% *	0%	33% to 93%	-13% to 25%
Investment income	39	40	41	5%	3%	-8% to 22%	-13% to 20%
Earnings	71	79	89	25% *	13%	8% to 49%	-1% to 30%
Other income	4	3	4	0%	33% *	-29% to 11%	2% to 56%
Net income BHC							
Mean	360	412	430	19% *	4% *	15% to 23%	1% to 8%
Median	280	321	333	19% *	4% *	16% to 22%	1% to 7%
Net income AHC							
Mean	330	378	396	20% *	5% *	15% to 24%	1% to 9%
Median	249	285	297	19% *	4% *	16% to 23%	1% to 7%
Pensioner couples							
Gross income	600	676	714	19% *	6%	12% to 27%	0% to 11%
<i>of which</i>							
Benefit income	216	239	244	13% *	2%	11% to 15%	0% to 4%
Occupational pension	164	201	210	28% *	4%	19% to 36%	-2% to 12%
Personal pension	21	32	33	57% *	3%	28% to 98%	-14% to 30%
Investment income	60	61	63	5%	3%	-13% to 24%	-14% to 24%
Earnings	133	140	160	20% *	14%	1% to 44%	-3% to 33%
Other income	5	3	5	0%	67% *	-35% to 20%	3% to 83%
Net income BHC							
Mean	488	557	585	20% *	5% *	15% to 26%	1% to 10%
Median	386	450	471	22% *	5% *	19% to 26%	1% to 8%
Net income AHC							
Mean	462	528	556	20% *	5% *	15% to 27%	1% to 10%
Median	358	426	444	24% *	4% *	20% to 28%	1% to 8%
Single pensioners							
Gross income	286	326	324	13% *	-1%	9% to 18%	-5% to 4%
<i>of which</i>							
Benefit income	177	185	186	5% *	1%	3% to 7%	-2% to 3%
Occupational pension	63	84	85	35% *	1%	23% to 46%	-8% to 10%
Personal pension	6	9	8	33% *	-11%	1% to 98%	-36% to 22%
Investment income	20	22	20	0%	-9%	-20% to 22%	-28% to 22%
Earnings	17	23	22	29% *	-4%	4% to 68%	-28% to 26%
Other income	3	3	3	0%	0%	-34% to 23%	-17% to 54%
Net income BHC							
Mean	249	281	280	12% *	0%	9% to 16%	-4% to 4%
Median	219	243	245	12% *	1%	10% to 14%	-1% to 4%
Net income AHC							
Mean	217	243	244	12% *	0%	8% to 17%	-4% to 5%
Median	178	199	204	15% *	2%	11% to 19%	-1% to 7%

Note: results that are statistically significant are denoted with an asterik (*)

Glossary

Definitions below are split into separate sections:

- **Household composition**
- **Personal characteristics**
- **State support**
- **Pension schemes**
- **All other definitions**

Further details on these definitions, including full derivations of variables, are available on request from the DWP Pensioners' Incomes Series Team at pensioners-incomes@dwpgsi.gov.uk

Household composition

Adult

All those individuals who are aged 16 and over, unless defined as a dependent child (see **Child**); all adults in the household are interviewed as part of the FRS.

Benefit unit or Family

A single adult or a married or cohabiting couple and any dependent children; since January 2006 same-sex partners (civil partners and cohabitees) have been included in the same benefit unit. Where a total value for a benefit unit is presented, such as total benefit unit income, this includes both income from adults and income from children. Below are various types of benefit unit:

- *Pensioner couple:* **Benefit units** where either adult in the couple is over State Pension age.
- *Pensioner couple, married or civil partnered:* Benefit units headed by a couple where the **Head of the benefit unit** is over State Pension age and the couple are either married or in a civil partnership.
- *Pensioner couple, cohabiting:* Benefit units headed by a couple where the **Head of the benefit unit** is over State Pension age and the couple are neither married nor in a civil partnership.
- *Single male pensioner:* Benefit units headed by a single male adult over State Pension age.
- *Single female pensioner:* Benefit units headed by a single female adult over State Pension age.

Child

A dependent child is defined as an individual aged under 16. A person will also be defined as a child if they are 16 to 19 years old and they are:

- Not married nor in a civil partnership nor living with a partner; and

- Living with parents/a responsible adult; and
- In full-time non-advanced education or in unwaged government training.

Head of benefit unit

The Head of ***benefit unit*** is either the ***Household Reference Person*** if the Household Reference Person belongs to the benefit unit, or if not it is the first person from the benefit unit in the order that they were named in the interview.

Household

One person living alone or a group of people (not necessarily related) living at the same address who share cooking facilities and share a living room or sitting room or dining area. A household will consist of one or more ***benefit units***. Where a total value for a household is presented, such as total household income, this includes both income from adults and income from children.

Household Reference Person (HRP)

The highest income householder, without regard to gender.

- In a single adult household, the HRP is the sole householder (i.e. the person in whose name the accommodation is owned or rented).
- If there are two or more householders, the HRP is the householder with the highest personal income from all sources.
- If there are two or more householders who have the same income, the HRP is the eldest householder.

Before April 2001, the Household Reference Person (HRP) was known as the Head of Household. Where we refer to 'Head' in tables relating to households, this is the HRP. The ***Head of benefit unit*** will not necessarily be the HRP (see Head of benefit unit).

Mixed status pensioner couples

Where one member is above State Pension Age (SPa) and the other is below, highlighting the different income profile of these pensioners compared with couples where both members are over SPa.

Pensioner benefit unit

Benefit units who are a pensioner couple, single male pensioner or single female pensioner. Pensioner benefit units may also include any dependent children, but this is uncommon. In 2014/15 2% of pensioner units included dependent children.

Personal characteristics

Age

Respondent's age at last birthday (at the time of the interview).

Ethnic group

The ethnic group to which respondents consider that they belong. The FRS

questions are in line with National Statistics' harmonisation guidance published in February 2013⁶. The categories are:

- White
- Irish Traveller
- Mixed/ Multiple ethnic groups
- Asian/ Asian British
- Indian
- Pakistani
- Bangladeshi
- Chinese
- Any other Asian background
- Black/ African/ Caribbean/ Black British
- Other ethnic group

Sample sizes for 'Irish Traveller' are small so for Northern Ireland it is output to 'Other ethnic group'. For England, Wales and Scotland it is output to 'White'.

Recently retired

Pensioner units are defined on the basis of age, rather than employment status. In previous years, this has been defined as those units where the head is less than five years over State Pension age, which included single women between 60 and 64, single men between 65 and 69, and pensioner couples where the head is between 65 and 69 if male, or between 60 and 64 if female.

For 2014/15, women aged between 62 and 66 are included in recently retired, as female SPa was 62 at the start of 2014/15 – provided they have reached SPa as defined by the criteria above. Recently retired pensioner units are included in the 'Under 75' age group.

State Pension age

The State Pension age is 65 for men born before 6 April 1959. For women born on or before 5 April 1950, State Pension age is 60. From 6 April 2010, the State Pension age for women born on or after 6 April 1950 will increase gradually between April 2010 and November 2018. From December 2018, the State Pension age for both men and women will start to increase to reach 66 in October 2020.

Details of further planned changes to State Pension age can be seen at:

<https://www.gov.uk/changes-state-pension> .

For 2014/15 data, women are defined to be of State Pension age based on their date of birth and the date of interview. For further guidance on calculating State Pension eligibility age, see: <https://www.gov.uk/calculate-state-pension>.

⁶ New harmonised categories are now available via the ONS harmonisation website:
<http://www.ons.gov.uk/ons/guide-method/harmonisation/primary-set-of-harmonised-concepts-and-questions/ethnic-group.pdf>

Working

All respondents with an employment status of full/part-time employed or full/part-time self-employed.

Working Age

Adults (see **Adult** and **Child**) under **State Pension age**.

State support

An individual is in receipt of state support if they receive either a **Benefit** (including the Basic State Pension) or a payable **Tax Credit**.

Benefits

The government pays money to individuals in order to support them financially under various circumstances. Most of these benefits are administered by DWP. The exceptions are *Housing Benefit* and *Council Tax Reduction*, which are administered by local authorities. **Tax Credits** are not treated as benefits, but both Tax Credits and benefits are included in the term *State Support*.

Benefits are often divided into *income-related benefits* and *non-income-related benefits*. Entitlement to income-related benefits is dependent on the recipient's income and savings. Entitlement to non-income-related benefits is dependent on the recipient's circumstances (age, level of disability, for example), but not on income and savings. A list of benefits divided into income-related and non-income-related is presented on the next page.

Disability-related benefits is the term used to describe all the benefits paid on the grounds of disability. These are Personal Independence Payment, Disability Living Allowance, Employment and Support Allowance, Severe Disablement Allowance, Attendance Allowance, War Disablement Pension, Industrial Injuries Disablement Benefit and Northern Ireland Disability Rate Rebate. Prior to 2008/09, Incapacity Benefit was included in this group.

For more information about specific benefits see: <https://www.gov.uk/browse/benefits>

Tax Credits

Working Tax Credits and Child Tax Credits are paid by HM Revenue & Customs.

For more information see: <http://www.hmrc.gov.uk/TAXCREDITS/>

Income-related benefits	Non-income-related benefits
Council Tax Reduction	Armed Forces Compensation Scheme
Employment and Support Allowance (income-related element)	Attendance Allowance
Extended Payments (Council Tax Reduction and Housing Benefit)	Carer's Allowance
Housing Benefit	Child Benefit
In Work Credit	Disability Living Allowance (both mobility and care components)
Income Support	Employment and Support Allowance (contributory element)
Job Grant	Guardian's Allowance
Jobseeker's Allowance (income-based element)	Health in Pregnancy Grant
Northern Ireland Other Rate Rebate	Incapacity Benefit
Northern Ireland Rate Rebate through energy efficient homes	Industrial Injuries Disablement Benefit
Northern Ireland Rate Relief for full-time students, trainees, under 18s and those leaving care	Jobseeker's Allowance (contributory element)
Pension Credit	Maternity Allowance
Rates Rebate	Northern Ireland Disability Rate Rebate
Return to Work Credit	Northern Ireland Lone Pensioner Rate Rebate
Social Fund – Community Care Grant	Personal Independence Payment (Daily Living and Mobility components)
Social Fund – Funeral Grant	Severe Disablement Allowance
Social Fund – Sure Start Maternity Grant	State Pension
Universal Credit	Statutory Maternity/Paternity/Adoption Pay
	Statutory Sick Pay
	Widow's Pension/Bereavement Allowance
	Widow's/Bereavement Payment
	Widowed Mother's/Parent's Allowance
	Winter Fuel Payments

Pension schemes

Automatic Enrolment

Automatic enrolment requires all employers to enrol their eligible workers into a workplace pension scheme if they are not already in one. The staged timetable began in October 2012 for larger firms, with enrolment for all employers to be complete by February 2018. In order to preserve individual responsibility for the decision to save, workers can opt out of the scheme. To be eligible for automatic enrolment, the jobholder must be at least 22 years old, under **State Pension age**, earn above the earnings trigger for automatic enrolment, and work or usually work in the UK. For more information see <https://www.gov.uk/workplace-pensions>

Occupational pension

An occupational pension scheme is an arrangement an employer makes to give their employees a pension when they retire. Employees may become a member of an employer's pension scheme on a voluntary basis. Until 6th April 2016 Defined Benefit occupational pension schemes could be contracted in to or out of the **State Second Pension**. This was abolished with the introduction of the New State Pension. The contracting out of Defined Contribution occupational pension schemes was abolished in 2012.

Personal pension

A pension provided through a contract between an individual and the pension provider. The pension which is produced will be based upon the level of contributions, investment returns and annuity rates. A personal pension can be either employer provided or privately purchased. Different forms of personal pension include:

- ***Group Personal Pension***: some employers who do not offer an occupational pension scheme may arrange for a pension provider to offer their employees a personal pension instead. The employer may have negotiated special terms with the provider which means that administration charges are lower than those for individual personal pensions. Although they are sometimes referred to as company pensions, they are not run by employers and should not be confused with occupational pensions, which have different tax, benefit and contribution rules.
- ***Group Stakeholder Pension***: like Group Personal Pensions, an employer can make an arrangement with a pension provider and offer their employees a Group Stakeholder Pension (see *Stakeholder Pension*).
- ***Stakeholder pension***: enable those without earnings, such as non-earning partners, carers, pensioners and students, to pay into a pension scheme. Almost anybody up to the age of 75 may take out a stakeholder pension and it is not necessary to make regular contributions. For more information, see: <https://www.gov.uk/personal-pensions-your-rights>.

Private pension

Private pensions include occupational pensions (also known as Employer-Sponsored pensions) and Personal pensions (including Stakeholder pensions). People can have several different private pensions at once. In previous years only one of these pensions could be contracted out. The contracting out of Defined Benefit occupational schemes was abolished in April 2016 with the introduction of the New State Pensions. The contracting out of Defined Contribution pension schemes was abolished in 2012.

All other definitions

Confidence interval

A measure of **sampling error**. A confidence interval is a range around an estimate which states how likely it is that the real value that the survey is trying to measure lies within that range. A wider confidence interval indicates a greater uncertainty around the estimate. Generally, a smaller sample size will lead to estimates that have a wider confidence interval than estimates from larger sample sizes. This is because a smaller sample is less likely than a larger sample to reflect the characteristics of the total population and therefore there will be more uncertainty around the estimate derived from the sample. Note that a confidence interval ignores any systematic errors which may be present in the survey and analysis processes.

Council Tax

The tax is based on the property value of a dwelling (which is split into bands) and assumes two adults per household.

For more information see: <https://www.gov.uk/council-tax>

Equivalisation

Income measures used in HBAI take into account variations in the size and composition of the households in which people live. This process is called equivalisation.

Equivalisation reflects the fact that a family of several people needs a higher income than a single individual in order for them to enjoy a comparable standard of living.

Equivalence scales conventionally take a couple with no children as the reference point. Consider a single person, a couple with no children, and a couple with two children aged fourteen and ten, all having unadjusted weekly household incomes of £200 (BHC). The process of equivalisation, as conducted in HBAI, gives an equivalised income of £299 to the single person, £200 to the couple with no children, but only £131 to the couple with children.

Family Resources Survey (FRS)

The FRS is one of the largest cross-sectional household surveys in the country surveying around 20,000 private households across all ages. Prior to 2002/03 the

survey covered Great Britain; from 2002/03 the survey was extended to cover the UK.

Gross income

Total income a pensioner receives from all sources before any outgoings, tax or housing costs.

Housing costs

Housing costs are made up of: rent (gross of housing benefit); water rates, community water charges and council water charges; mortgage interest payments (net of tax relief); structural insurance premiums (for owner occupiers); and ground rent and service charges.

Net incomes in the Pensioners' Incomes Series report are presented either on a BHC or AHC basis, the definitions of which are:

- Before Housing Costs (BHC): Net income before the housing cost aspects listed above are taken away.
- After Housing Costs (AHC): Net income after the housing cost aspects listed above are taken away.

Capital mortgage repayments are not deducted as a Housing Cost as this is regarded as an asset being accrued and not a cost.

In a multi-benefit unit household, housing costs are ascribed to the first benefit unit (the benefit unit with the Household Reference Person). This means that for a minority of pensioner units, housing costs will not be attributed to them.

Income distribution

The spread of incomes across the population.

Net income

Net income is gross income with direct taxes including Council Tax payments deducted. Net income may be presented on a Before Housing Costs or After Housing Costs basis. See ***Housing costs*** for more detail.

Region and country

Regional⁷ classifications are based on the standard statistical geography of the former Government Office Regions: nine in England, and a single region for each of Scotland, Wales and Northern Ireland. These regions are built up of complete counties or unitary authorities. Tables also include statistics for England as a whole. For more information on National Statistics geography see <http://www.ons.gov.uk/guide-method/geography/ons-geography/index.html>.

Disaggregation by geographical regions is presented as three-year averages. This presentation has been used as single-year regional estimates are considered too

⁷ Regional information is at [NUTS1](#) level.

volatile. Estimates for the UK, however, are shown as single-year estimates for the latest available year.

Although the FRS sample is large enough to allow some analysis to be performed at a regional level, it should be noted that no adjustment has been made for regional cost of living differences, as the necessary data are not available. In the analysis here it is therefore assumed that there is no difference in the cost of living between regions, although the AHC measure will partly take into account differences in housing costs.

Sampling error

The uncertainty in the estimates which arises from taking a random sample of the household population. The likely size of this error for a particular statistic can be identified and expressed as a confidence interval.

Sources of pensioner income

- **State Pension:** State pension income includes basic and additional state pension. To qualify for State Pension you must have reached State Pension age (see ***State Pension age***).
- **Income-related benefit:** Income from income-related benefits (see ***Benefits***).
- **Disability benefit:** Income from disability benefits (see ***Benefits***).
- **Investment income:** Income from interest, Individual Savings Allowance (ISAs) and other savings accounts, such as unit trusts, bonds, stocks and shares.
- **Occupational pension:** Income from any occupational pension (see ***Pension Schemes***).
- **Personal pension:** Income from any personal pension (see ***Pension Schemes***).
- **Private pension:** Income from any private pension (see ***Pension Schemes***).
- **Earnings:** Income from earnings refers to gross earnings from employment and self-employment. Wages and salaries for a respondent currently working, income from wages and salaries is equal to: gross pay before any deductions, less any refunds of income tax, any motoring and mileage expenses, any refunds for items of household expenditure and any Statutory Sick Pay or Statutory Maternity Pay, plus bonuses received over the last 12 months (converted to a weekly amount).

Annex 1: Alternative inflation measures

This Annex presents analysis on the changes in income Before and After Housing Costs (BHC and AHC) over time due to a methodological change in the use of deflators in PI from 2014/15.

Background

Consumer price inflation is the speed at which the prices of goods and services bought by households rise or 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 bought by households. The price index estimates changes to the total cost of this basket.

There are a range of indices which seek to measure inflation, but there are differences in their coverage, calculation and population base. PI has historically used variants of the Retail Prices Index (RPI) to adjust for inflation, primarily to present income in the latest year's prices.

From 2014/15, there have been methodological changes to PI when adjusting for inflation with a move from use of RPI to CPI (Consumer Price Index) variants.

The differences between these indices are detailed in Box A1a with a rationale for this methodological change detailed in a Statistical Notice published in May 2016⁸.

In brief, RPI has been assessed against the Code of Practice for Official Statistics and found not to meet the required standard for designation as a National Statistic. The 2015 Johnson Review of UK Consumer Price Statistics made a series of recommendations to the board of the UK Statistics Authority (UKSA) including the discontinuation of use of RPI, and adoption of CPIH as the UK's main price index.

Following a UKSA public consultation on the Johnson Review recommendations the National Statistician, John Pullinger, wrote to the Chair of the UKSA, Sir Andrew Dilnot, setting out the view that RPI is not a good measure of inflation and that future usage should be strongly discouraged in favour of superior alternatives.

Whilst a final response from the UKSA decision is still forthcoming, there is a strong expectation based on information currently publicly available that recommendations will be clearly against ongoing use of RPI and in favour of CPI/CPIH-based indices.

⁸ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/519332/dwp-family-household-income-stats-adjusting-for-inflation-statistical-notice.pdf

Methodological changes

As such, following receipt of technical advice from independent experts at the Institute for Fiscal Studies (IFS), DWP commissioned the production of bespoke variants of CPI from ONS. These are:

- An 'experimental' CPI series including mortgage interest payments, ground rent and dwelling insurance – for use with incomes Before Housing Costs (BHC)
- A CPI series excluding rents, maintenance repairs and water charges – for use with incomes After Housing Costs (AHC).

These series are available back to January 2000 and 1996 respectively. Where we needed to make adjustments to incomes for earlier periods we have used approximations as:

- BHC: the RPI-based BHC series currently used in our publications, less 0.5%
- AHC: the RPIX series currently used in our publications less 0.5%⁹

This approach, whilst only intended as a broad approximation, has similarly been agreed with IFS and is line with analysis previously provided by the Office for Budget Responsibility on the long term difference between RPI and CPI attributable to the formula effect¹⁰.

Coverage and population base of different indices

Differences in inflation measures arise due to coverage, the population base of the indices and the way in which individual price quotes are combined at the first stage of aggregation. A main difference in construction between the inflation indices is their inclusion of 'housing costs'. Both indices include bills associated with housing, i.e. gas and electricity, and the price of renting a property. However, their treatment of owner occupier costs and mortgage interest payments are different.

To note, whilst all analysis in HBAI is based around the concept of one measure of inflation which tells us how costs are changing for all household types, in reality households with different characteristics have different spending patterns and these spending patterns affect each household's experience of inflation. As such, it is likely that households in different parts of the UK, or at different positions on the overall income distribution, may face differential inflation rates.

⁹ RPIX is equivalent to RPI excluding Mortgage Interest Payments.

¹⁰ http://budgetresponsibility.org.uk/docs/dlm_uploads/Working-paper-No2-The-long-run-difference-between-RPI-and-CPI-inflation.pdf

Box A1a: Summary of the indices

	RPI	CPI
<i>Population Base</i>	The RPI covers the majority of private UK households, but excludes the highest earners and pensioner households dependent mainly on state benefits. Excludes foreign visitors to the UK, but includes UK residents' spending abroad.	The CPI is representative of all private UK households and includes the expenditure of institutional households and foreign visitors to the UK, but does not include UK residents' spending abroad.
<i>Coverage</i>	<p>The RPI covers a range of costs, including:</p> <ul style="list-style-type: none"> • Mortgage interest payments • Council tax • House depreciation • Buildings insurance • House purchase costs • TV licence • Road fund licence • Trades union subscriptions 	<p>Certain charges and fees excluded from RPI are covered by CPI, including:</p> <ul style="list-style-type: none"> • Stockbroker fees; • University accommodation fees; • Foreign student tuition fees; • Unit trust fees. <p>CPI coverage excludes owner occupier housing (OOH) costs that are included in the RPI.</p>
<i>Housing Costs</i>	Includes both Owner Occupiers' housing costs and mortgage interest payments.	Does not include either OOH or mortgage interest payments.
<i>Weights</i>	Expenditure data used to represent this population are derived from a number of sources but mainly from ONS's Living Costs and Food Survey.	Expenditure data used to represent this population are derived from National Accounts data.
<i>Index Construction Formulae</i>	The RPI is constructed using an arithmetic mean (AM) and uses the Carli formula.	The CPI uses a geometric mean (GM).

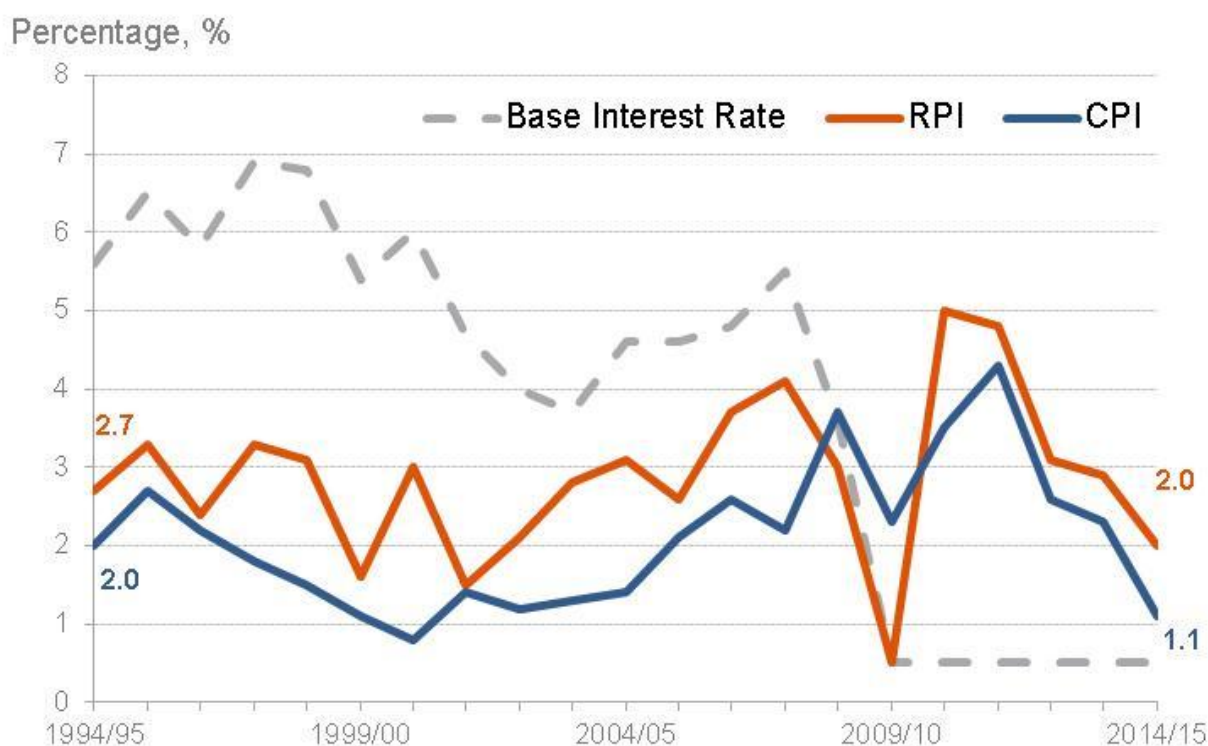
To highlight, CPIH has the same population base, coverage and weights as the CPI; however, it also includes estimates of Owner Occupiers' Housing costs (OOH). CPIH uses a rental equivalence approach to measure OOH costs. This uses the rent paid for an equivalent house in the private sector as a proxy for the costs faced by an owner occupier, so does not reflect changes to mortgage interest rates. As indicated above, when adjusting incomes BHC we have opted instead to use an experimental CPI series, adapted to include mortgage interest payments, ground rent and dwelling insurance.

What the figures show

Changes in inflation (Chart A1.1)

RPI and CPI follow broadly similar trends over time with RPI generally higher on average, with the exception of the period from 2008/09 to 2009/10. Following the financial crisis, base interest rates fell to 0.5 per cent causing growth to slow for RPI compared to CPI. This reflects the fact that the RPI measure includes mortgage interest payments, whilst CPI does not.

Chart A1.1: RPI, CPI inflation rate, and Bank of England base rate, 1998/99 to 2014/15



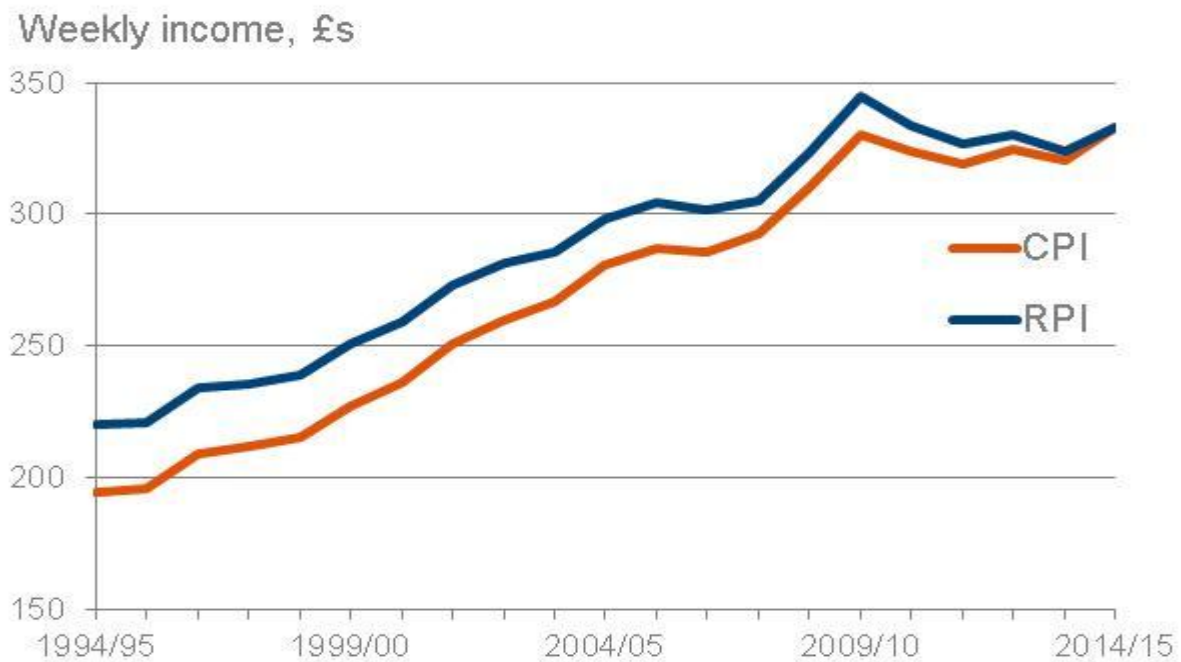
Income trends

As CPI is lower on average than RPI, average (median) income in 2014/15 prices for past years is lower following this methodological change than it would be if we had continued with use of RPI deflators, with the largest differences seen in the earliest years.

Overall trends are largely consistent, however, with average pensioner income values deflated by both RPI and CPI variants increasing BHC and AHC between 2013/14 and 2014/15.

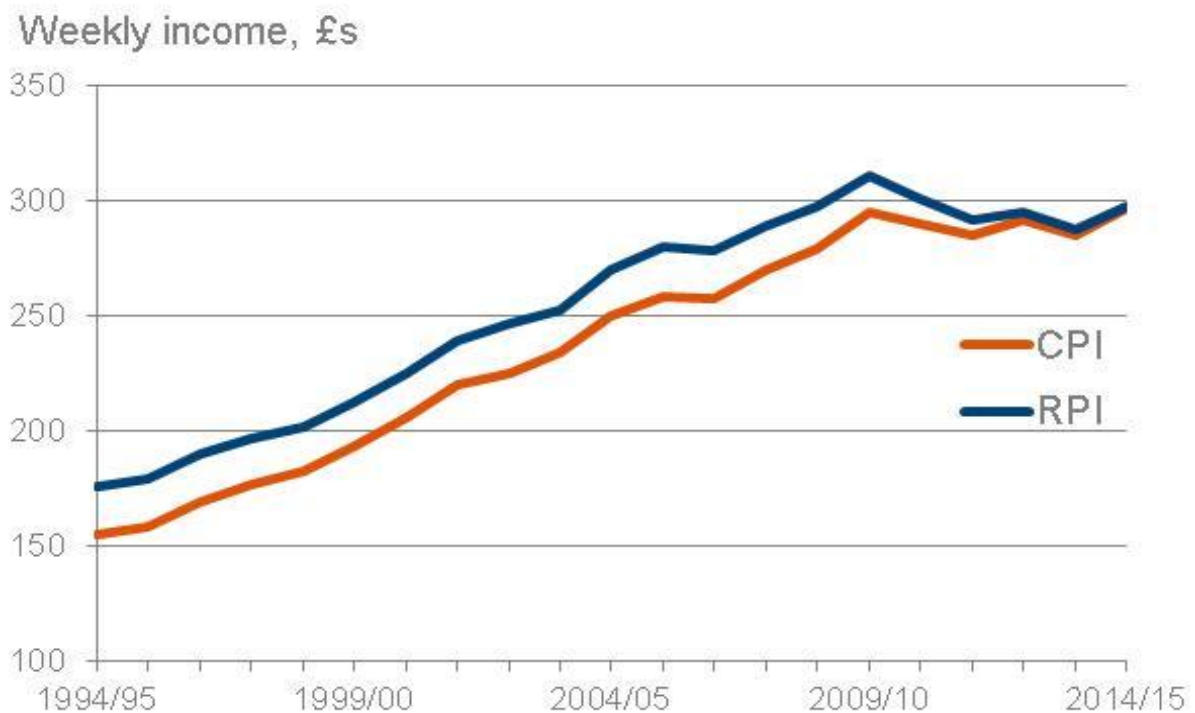
The change in long-term trajectories does affect peak values however – under the new methodology average income deflated by CPI peaks at historic highs in 2014/15 both BHC and AHC. When deflating by RPI variants, however, average incomes peak instead in 2009/10 for BHC and AHC series.

Chart A1.2: Average (median) pensioner income in average 2014/15 prices, deflated by different inflation measures, BHC, 1994/95 to 2014/15



1. Data for 2002/03 onwards are for the United Kingdom. Earlier years are for Great Britain only.

Chart A1.3: Average (median) pensioner income in average 2014/15 prices, deflated by different inflation measures, AHC, 1994/95 to 2014/15, GB/UK



1. Data for 2002/03 onwards are for the United Kingdom. Earlier years are for Great Britain only.