



Department
for Work &
Pensions

Income-Related Benefits: Estimates of Take-up 2014/15

Background information and methodology

June 2016

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Background

Purpose of the statistics

Income-Related Benefits: Estimates of Take-up

The statistics are designed to give an estimate of the take-up of benefits within the entitled population. They aim to provide an indication of whether and to what extent the different benefits are taken up by different groups.

They can be used to increase awareness of take-up for particular benefits, inform Government policies and measure the effect of take-up initiatives. Additional details of how the statistics are commonly used can be found in a customer feedback report from 2010/11¹.

Context of the statistics

The publication covers four benefits:

- Pension Credit (PC)
- Housing Benefit (HB)
- Jobseeker's Allowance (Income-based) (JSA(IB))
- Income Support (IS) and Employment and Support Allowance (Income-related) (ESA(IR))

There have been no significant policy changes in 2014/15 which affect the take-up estimates.

Universal Credit is being rolled out and will affect the take-up publication in the future as eligibility for current benefits changes. We are monitoring the situation and will make changes in the future as required.

Please see gov.uk for more information on Universal Credit -

<https://www.gov.uk/universal-credit>

Pension Credit

Background

Pension Credit (PC) is an income-related benefit which was introduced on 6 October 2003 and replaced the Minimum Income Guarantee (MIG).

¹ Usage of Income-related benefits estimates of take-up publication 2010-11 (2011) The report can be found at:

http://webarchive.nationalarchives.gov.uk/20130128102031/http://research.dwp.gov.uk/asd/income_analysis/aug_2011/Usage_of_the_IRB_estimates_of_take-up_publication.pdf

Overview

There are two parts to PC: the Guarantee Credit (GC), and the Savings Credit (SC).

The GC increases the claimant's income up to a guaranteed level. The level may increase if the claimant is a carer, severely disabled or has certain housing costs. To qualify:

- A claimant must live in Great Britain;
- The claimant must have reached Pension Credit qualifying age.

The SC is an extra amount for people aged 65 or over who have made provision for their retirement above the savings credit threshold (such as savings or a second pension). Pensioners may be entitled to SC as well as, or instead of the GC.

From April 2016 the SC element is not available to those who reach state pension age on, or after 6 April 2016.

Please see gov.uk for more information on current PC entitlement rules -

<https://www.gov.uk/pension-credit>

Benefit Rates

The Standard Minimum Guarantee (SMG) is the minimum level of income that is guaranteed through the GC. This is uprated each year by at least the level of the increase in earnings; although in recent years it has increased by more than this in order to match the cash increase in the basic State Pension. At uprating 2016 both the basic State Pension and the SMG were increased by earnings.

The Savings Credit Threshold (SCT) determines the level of income at which someone becomes eligible for SC, while the SC Maximum (SCmax) is the maximum amount of SC that can be awarded. In recent years the rate of the increase of the SCT has had the effect of reducing the SC max.

Singles	2014/15
Standard Minimum Guarantee	£148.35
Savings Credit Threshold	£120.35
Savings Credit Maximum	£16.80
Couples	
Standard Minimum Guarantee	£226.50
Savings Credit Threshold	£192.00
Savings Credit Maximum	£20.70

The qualifying age

By November 2018, the PC qualifying age for men and women will have gradually risen to 65 in line with the State Pension age increase for women. It will then increase in line with further increases in State Pension age, so will rise to 66 by October 2020 and to 67 by 2028. More information can be found in the following table -

Date	Qualifying Age
April 2009	60 years
April 2010	60 years
April 2011	60 years and 6 months
April 2012	61 years
April 2013	61 years and 6 months
April 2014	62 years
April 2015	62 years and 6 months

Changes to Pension Credit rules

From November 2010, the level of the capital disregard increased to £10,000 (up from £6,000). Previously, only those who lived permanently in a care home had a £10,000 capital disregard.

Interaction with other income-related benefits

Men aged between women's state pension age and 65 may claim one of PC, Employment and Support Allowance (IR), Jobseeker's Allowance or, in certain areas, Universal Credit. Currently this choice also exists for 'mixed age' couples where one member is aged above the PC qualifying age, and the other is aged below.

For the purposes of estimating take-up, we model that men aged over the PC qualifying age, but under 65, would have claimed PC rather than Jobseeker's Allowance (IB). Similarly, mixed age couples are assumed to claim Pension Credit.

PC could be paid in conjunction with Housing Benefit but not with Jobseeker's Allowance (IB), Income Support or Employment and Support Allowance (IR).

Housing Benefit

Background

Housing Benefit (HB) helps tenants who are on a low income to pay their rent. HB is administered by local authorities who decide whether a claimant is eligible for HB, and how much they are entitled to. Tenants can apply for HB irrespective of whether they are in work, or out-of-work - and it may be paid alongside other means-tested benefits, non-means-tested benefits, or on its own.

Overview

Subject to having an eligible rent liability, the vast majority of those on the Guarantee Credit element of Pension Credit, Jobseeker's Allowance (Income-based), Income Support or Employment and Support Allowance (Income-related) are automatically eligible for maximum HB.

Claimants not in receipt of one of the benefits listed above may have their HB reduced if they have capital or income in excess of certain thresholds - and if their capital or income is too high they may not be entitled to HB at all.

The amount awarded can also vary based on the numbers, age and disabilities of members of the household. For many claimants in the private rented sector, the level of their eligible rent is also limited by the local housing allowance rates which apply to where they live. The size and composition of the claimant's household determines the size of the accommodation which they might reasonably need – and in turn the specific local housing allowance rate used to assess entitlement to HB. The benefit cap may also apply.

There are some exceptions. Those that are not entitled to HB include:

- Those who live in the home of a close relative;
- Any full-time students - unless they are disabled or have children;
- Asylum seekers or those sponsored to be in the UK.

Please see gov.uk for more information on current HB entitlement rules.

<https://www.gov.uk/housing-benefit>

Benefit Rates

There is no set amount of HB that a person will receive and it will depend on whether they rent privately (and so are entitled to Local Housing Allowance (LHA)) - or from a social landlord.

Changes to Housing Benefit rules

Since 2010 there have been a number of changes to the structure of HB.

LHA changes:

- LHA rates calculated based on the 30th percentile of rents in the area; previously, they were based on the 50th percentile (or median of rents);
- Claimants are no longer entitled to keep any excess between their rent and the LHA rate (previously, this was up to £15 a week);
- LHA rates are capped to overall maximum weekly levels (affecting the most expensive areas such as inner London);
- Claimants can no longer get the five-bedroom rate;
- The age threshold for the shared accommodation rate (SAR) (previously under 25) was extended to include single people aged under 35.

Removal of the Spare Room Subsidy:

The removal of the spare room subsidy was introduced nationally on 1 April 2013. It applies the size criteria test that pre-existed in the LHA to determine the number of bedrooms needed by working-age HB claimants living in the social rented sector. Where claimants are found to be under-occupying, their eligible rent is reduced by 14 per cent if they have one extra bedroom and by 25 per cent if they have two or more. Pensioners are exempt from the policy, with easements for certain groups (for example claimants with overnight carers).

Non-dependant deductions:

A three-year staged increase in the rates of non-dependant deductions (NDDs) in HB was introduced from April 2011. By April 2013, these increases brought the NDD rates to the level they would have been had they been increased each year since 2001 to broadly reflect growth in rents.

Interaction with other income-related benefits

HB is worked out on the basis of an 'applicable amount' intended to cover basic weekly living expenses. The amount of benefit is worked out by comparing a person's income with their applicable amount which is intended to cover day-to-day living expenses, taking account of the size and make-up of the household.

If the net income is equal to or is less than the applicable amount or they are in receipt of an income-related benefit, they will receive 100 per cent of the rent for which benefit can be paid less any non-dependant deductions. This would be subject to any deductions for non-dependants who live with them, and help with rent would not exceed the LHA rate which applies to their household. If the net income is more than the applicable amount, they will receive reduced HB. For each pound of extra income over the applicable amount, after disregards, 65 pence will be deducted.

Jobseeker's Allowance (Income-based)

Background

Jobseeker's Allowance (JSA) was introduced in October 1996 and is paid to help people while they look for work.

Overview

There are two types of JSA:

- contribution-based JSA (JSA (C))
- income-based JSA (JSA (IB)).

JSA (C) is paid if the claimant has paid sufficient Class 1 National Insurance contributions in the two tax years before the benefit year being claimed in (first Sunday in January to the Saturday before the first Sunday in January of the next year). To have paid this, the claimant must have:

- Worked for 26 weeks in one of these years earning at least the lower earnings limit for that tax year;
- Paid Class 1 contributions or received National Insurance credits in both of these tax years that amount to 50 times the lower earnings limit.

JSA (IB) is paid if the claimant:

- Was paid less than £153 per week on average when in employment over the past two years;
- Has been claiming JSA (C) for over 182 days; or

- Hasn't worked over the last two years.

In addition to the criteria specific to each type of JSA above, a claimant must:

- generally be 18 or over but below State Pension age, although some people aged 16 or 17 are eligible;
- not be in full-time education;
- be in Great Britain (different rules apply in Northern Ireland);
- be available for work;
- be capable of work;
- be actively seeking work;
- work on average less than 16 hours a week;
- enter into a Claimant Commitment (or Jobseeker's Agreement) which remains in force; and
- any partner must usually work less than 24 hours a week (on average).

Furthermore, the benefit unit also must have £16,000 or less in savings.

There are also certain eligibility rules for lone parents who want to claim JSA.

A claimant can make a joint claim with a partner if all the following apply:

- both partners want to claim JSA;
- both partners are 18 or over;
- both partners are under state pension age; and
- neither of the claimants are responsible for a child (under certain criteria).

Receipt of JSA (IB) does not affect Child Benefit or child tax credit. However the benefit cap limits the amount of benefit that most people aged 16 to 64 can get. This may affect the total amount of benefit a claimant may get.

It is possible for a claimant to receive both JSA (C) and JSA (IB).

While the focus of this report is on take-up estimates for JSA (IB), those receiving both JSA (C) and JSA (IB) and those in receipt of JSA (C) only are included in the receipt estimates. For entitled non-recipients (ENRs) of JSA (IB), the estimates include those modelled as entitled to JSA (IB) only, but not receiving it.

Please see gov.uk for more information on JSA current entitlement rules -

<https://www.gov.uk/jobseekers-allowance>

Benefit Rates

JSA (IB) is paid fortnightly and usually uprated each year by the increase in prices (Consumer Price Index). However, since 2013/14, the personal allowance in JSA (IB) has been capped at 1 per cent. This cap is in place for 3 years up to 2015/16.

The amount paid is dependent on the age of the claimant -

Age of Claimant	2014/15
16 to 17	£57.35
18 to 24	£57.35
25 and over	£72.40

Interaction with other income-related benefits

Men aged between women's state pension age and 65 may claim one of Pension Credit (PC), ESA (IR), or income-based Jobseeker's Allowance (JSA (IB)). This choice also exists for 'mixed age' couples where one member is aged above the Pension Credit qualifying age, and the other is below.

For the purposes of estimating take-up, we model that men aged over the Pension Credit qualifying age, but under 65, would have claimed Pension Credit rather than JSA (IB). Similarly, mixed age couples are assumed to claim Pension Credit.

JSA (IB) could be paid in conjunction with Housing Benefit but not with Income Support or Employment and Support Allowance (IR).

Income Support and Employment and Support Allowance (Income-related)

Background

Income Support (IS) is paid to people below Pension Credit age who are on low incomes and are not in full-time work. Employment and Support Allowance (ESA) is paid to people below State Pension age who have an illness or a disability. This report combines take-up estimates of IS and income-related ESA (ESA (IR)).

Overview

To qualify for IS a claimant must meet the relevant conditions of entitlement:

- between 16 and Pension Credit qualifying age;
- pregnant, or a carer, or a lone parent with the youngest child under a specific age or, in some cases, unable to work because they are sick or disabled;
- have either no income or a low income;
- working less than 16 hours a week (and a partner working no more than 24 hours a week);
- be in Great Britain (different rules apply in Northern Ireland);
- have savings below £16,000 (exceptions apply);
- do not need permission to enter the UK (exceptions apply);
- do not get income-based Jobseeker's Allowance or ESA (IR) (exceptions apply); and
- are not a young person being looked after by a local authority (exceptions apply).

Claimants who have paid sufficient National Insurance contributions receive contribution-based ESA (ESA (C)). Those who are not entitled to ESA (C) at all or do not receive enough money from their entitlement to ESA(C) to reach the ESA personal allowance benefit rate, may be entitled to ESA (IR).

To qualify for ESA (IR), the claimant's illness or disability has to affect their capability to work, and they must:

- be under State Pension age;
- not be getting Statutory Sick Pay or Statutory Maternity Pay and not gone back to work;
- not be getting Jobseeker's Allowance;
- not have an income over a certain threshold. This includes the claimant and any partner's (if applicable) income; and
- not have savings greater than £16,000 (exceptions apply).

While this report presents take-up estimates for ESA (IR), those receiving both ESA (C) and ESA (IR) are included in the receipt estimates. For those who are entitled but not receiving ESA (IR), the estimates only include those modelled to be entitled to ESA (IR) but not receiving it.

Please see gov.uk for more information on current IS and ESA entitlement rules -

<https://www.gov.uk/income-support>

<https://www.gov.uk/employment-support-allowance/overview>

Benefit Rates

The weekly amount paid is based on the difference between the benefit unit's applicable amount and income. The applicable amount is calculated from the personal allowance, premiums and certain housing costs relevant to the benefit unit. For ESA (IR), while a work capability assessment is being carried out, the benefit unit receives the 'assessment phase' personal allowance. Once assessed, the benefit unit receives the 'main phase' personal allowance, along with either the relevant support component or work-related activity component. As a result, IS and ESA (IR) payments will differ for each benefit unit due to their different circumstances. See the rates on the following page –

Personal Allowances		2014/15
Single	Under 25 (ESA assessment phase)	£57.35
	Under 25 (ESA main phase/IS)	£72.40
	25 or over	£72.40
Lone Parent	Under 18 (ESA assessment phase)	£57.35
	Under 18 (ESA main phase/IS)	£72.40
	25 or over	£72.40
Couple	Both under 18 (ESA assessment phase)	£86.65
	Both under 18 (ESA main phase/IS)	£113.70
	Both over 18	£113.70
	One 18-24 (ESA assessment phase)	£57.35
	One 18-24 (ESA main phase/IS)	£72.40
	One 25 or over	£72.40
Premiums		
Disability	Single	£31.85
	Couple	£45.40
Severe Disability	Single or couple (one qualifies)	£61.10
	Couple (both qualify)	£122.20
Carer		£34.20
Enhanced Disability	Single	£15.55
	Couple	£22.35
ESA-IR Components		
Work-related component		£28.75
Support component		£35.75

The Disability premium is not available to ESA (IR) recipients. ESA (IR) has components instead.

ESA (IR) payments can be reduced (sanctioned) for up to four weeks for those in the work-related activity group if the claimant does not attend regular interviews or carry out agreed work-related activity. In some cases, a hardship payment may be given during this period.

Changes to IS and ESA rules

From 24 October 2009, the upper age limit of the youngest child allowing a lone parent to be entitled to IS reduced progressively each year from 12 in 2009/10 to 5 years old in 2012/13. Lone parents with the youngest child aged 5 and over, able to work and with no caring responsibilities could apply for JSA and would be required to look for work. Those with a disability or health condition were expected to claim ESA (IR). This resulted in a reduction in the number of lone parents receiving IS and an increase in the number of lone parents receiving JSA.

ESA was introduced on 27 October 2008, replacing Incapacity Benefit (IB) and Severe Disablement Allowance (SDA) for new claimants. Since April 2011, existing claimants of IB or SDA are being gradually assessed for eligibility for ESA. Therefore, the number of benefit units receiving ESA (IR) has increased between 2009/10 and 2014/15, as those receiving IB and SDA have started receiving ESA (IR) instead.

From 1 May 2012, ESA(C) has been restricted to 365 days for those in the work related activity group. This will have led more people becoming eligible for ESA (IR).

Interaction with other income-related benefits

IS and ESA (IR) could be paid in conjunction with Housing Benefit but not with each other or income-based Jobseeker's Allowance.

Strengths and limitations of the statistics

New methodology

The key strength of the new methodology introduced for the 2013/14 analysis is that it makes more use of existing administrative data alongside data from the Family Resources Survey (FRS) and Policy Simulation Model (PSM) to estimate take-up.

Although they are based on DWP administrative data, the numbers in receipt and expenditure are not identical to official DWP statistics. This is because they are averaged across the whole year and other adjustments are made to enable consistency with the other non-administrative sources used, such as the FRS (See Methodology section for a full discussion).

Although all estimates are subject to some analytical assumptions, the new methodology minimises these. As a result of the changes more accurate and timely estimates can be produced.

There is general uncertainty in estimates, especially of those of entitled non-recipients (ENR) of benefits, given the complexity of estimation. The Family Resources Survey (FRS), used in the estimation of ENR, is not designed specifically to measure entitlement criteria to the same extent as an application for a specific benefit. It is a multi-purpose household survey.

The estimates of ENR are also based on PSM data, which is modelled survey data, and therefore subject to sampling variation and other forms of error associated with a sample survey, such as reporting errors, under-reporting, systematic bias and random sampling error. (See FRS Background note for more details <https://www.gov.uk/government/statistics/family-resources-survey-financial-year-201415>)

Reasons for take-up

A recent working paper² reviewed the literature available on issues relating to take-up of benefits. Trying to explain the reasons for non-take-up is difficult and we do not have the data in our modelling to do this. But in helping put results into context, it is useful to outline some of the broad factors that have been found to have an effect. Take-up may be affected by factors such as the size or other attractiveness of the benefit, lack of awareness of the benefit or application procedure, lack of awareness of their entitlement, the perceived stigma of receiving a benefit, or other factors.

² Access To Benefits, working paper (2014) Eurofound <http://www.eurofound.europa.eu/access-to-benefits-in-times-of-crisis>

Coverage

Due to restrictions in modelling and available data certain populations are excluded from our analysis. As such the results do not include:

- Those living in non-private households.
- The whole United Kingdom. Due to the differences in benefit systems it is not possible to provide estimates for Northern Ireland. Only figures for Great Britain are reported.

Comparisons between the statistics

HMRC publishes estimates of the take-up of tax credits.

<https://www.gov.uk/government/statistics/child-benefit-child-tax-credit-and-working-tax-credit-take-up-rates-2013-to-2014>

A recent working paper³ reviewed the literature available on issues relating to take-up of benefits including the availability of take-up analysis in other European countries.

<http://www.eurofound.europa.eu/publications/report/2015/social-policies/access-to-social-benefits-reducing-non-take-up>

Given the adjustments and coverage of the take-up methodology, receipt and expenditure estimates here will not be the same as the official statistics published by DWP. DWP publishes a wide range of statistics on receipt of benefits and benefit expenditure.

Official Statistics are published at:

<https://www.gov.uk/government/organisations/department-for-work-pensions/about/statistics>

Source of the statistics

Figures in this analysis are based on DWP administrative data, Local Authority administrative data, and data from the Family Resources Survey (FRS). The survey data from the FRS are then modelled using an econometric model known as the Policy Simulation Model (PSM). More details are in the Methodology section.

Definitions and terminology within the statistics

Take-up refers to the receipt of benefits a family is entitled to. Such a family is referred to as an entitled recipient (ER). There are also families who are entitled to

³ Access To Benefits, working paper (2015) Eurofound.

<http://www.eurofound.europa.eu/publications/report/2015/social-policies/access-to-social-benefits-reducing-non-take-up>

benefits, but not in receipt of them. Such a family is referred to as an entitled non-recipient (ENR).

Take-up is estimated in two ways - by caseload and by expenditure:

- Caseload take-up compares the number of benefit recipients, averaged over the year, with the estimated number who would be receiving if everyone took up their entitlement for the full period of their entitlement.
- Expenditure take-up compares the total amount of benefit received, in the course of a year, with the estimated total amount that would be received if everyone took up their entitlement for the full period of their entitlement.

Average

In this publication, 'average', is used interchangeably with the word 'mean'.

Benefit unit or Family

A single adult or couple living as married, and any dependent children.

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.

Entitled

A family is said to be entitled to receive a benefit if they satisfy the qualifying conditions for that benefit.

Entitled Non-Recipient (ENR)

A family that is modelled to be entitled to a benefit but is not receiving it is said to be an ENR.

Entitlement

Entitlement is the amount of money an entitled family is estimated to receive in benefit according to modelling.

Mean

The mean weekly amount claimed or unclaimed is the average, found by adding up the amount for each benefit unit in a population and dividing the result by the grossed up number of benefit units.

Median

The median weekly unclaimed amount is the value that divides the population of Entitled Non-Recipients, when ranked by their modelled entitlements, into two equal-sized groups. In other words, the median is the exact middle point where half the Entitled Non-Recipients have larger unclaimed amounts and half have smaller unclaimed amounts.

Revisions to the statistics

The approach to estimating income-related benefits entitlement has been improved with the first results based on the new approach published in June 2015. As a result of this improvement the figures for 2009/10, published in 2012⁴, have been revised. It is these revised statistics that are used in this publication and should take precedence over previously published results.

The main changes that have been introduced with the new methodology include:

- Matching DWP administrative data with the FRS to improve data on receipt (where consent to link has been given) across all benefits in the report;
- Presenting uncertainty in the estimates using confidence intervals. By removing the error framework, we are improving transparency but still producing statistics that are fit for purpose in a complex area.

As a result of the changes more accurate and timely estimates can be produced.

The Department's policy statement describes how DWP will handle revisions:

<https://www.gov.uk/government/publications/policy-statement-on-the-revision-of-dwp-statistics>

Status of the statistics

Official statistics

Income-related Benefits: Estimates of Take-up is now classified as an Official Statistic rather than an experimental statistic. In developing these statistics, DWP has acted in accordance with the Code of Practice for Official Statistics and supporting Principles.

Further information about national statistics can be found at:

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

Quality Statement

The take-up estimates are based on a number of data sources all of which have their own processes in place to ensure their quality. When producing the take-up

⁴ Income Related Benefits: Estimates of Take-up in 2009-10: Full Report (2012) DWP.
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/222915/tkup_full_report_0910.pdf

estimates all content has been independently quality assured by different members of the team to ensure methodology is robust. All commentary in the publication is reviewed by the team and analysts from the relevant policy areas to ensure the information presented is accurate and meets user needs.

Feedback

We welcome feedback

Please let us know what you think of the presentation and content of the take-up statistics. Contact

Irb.TakeUp@dwp.gsi.gov.uk

Useful links

This document, the statistics release and supporting tables, along with previous releases, can be found here:

<https://www.gov.uk/government/statistics/income-related-benefits-estimates-of-take-up-financial-year-201415>

Methodology

Introduction

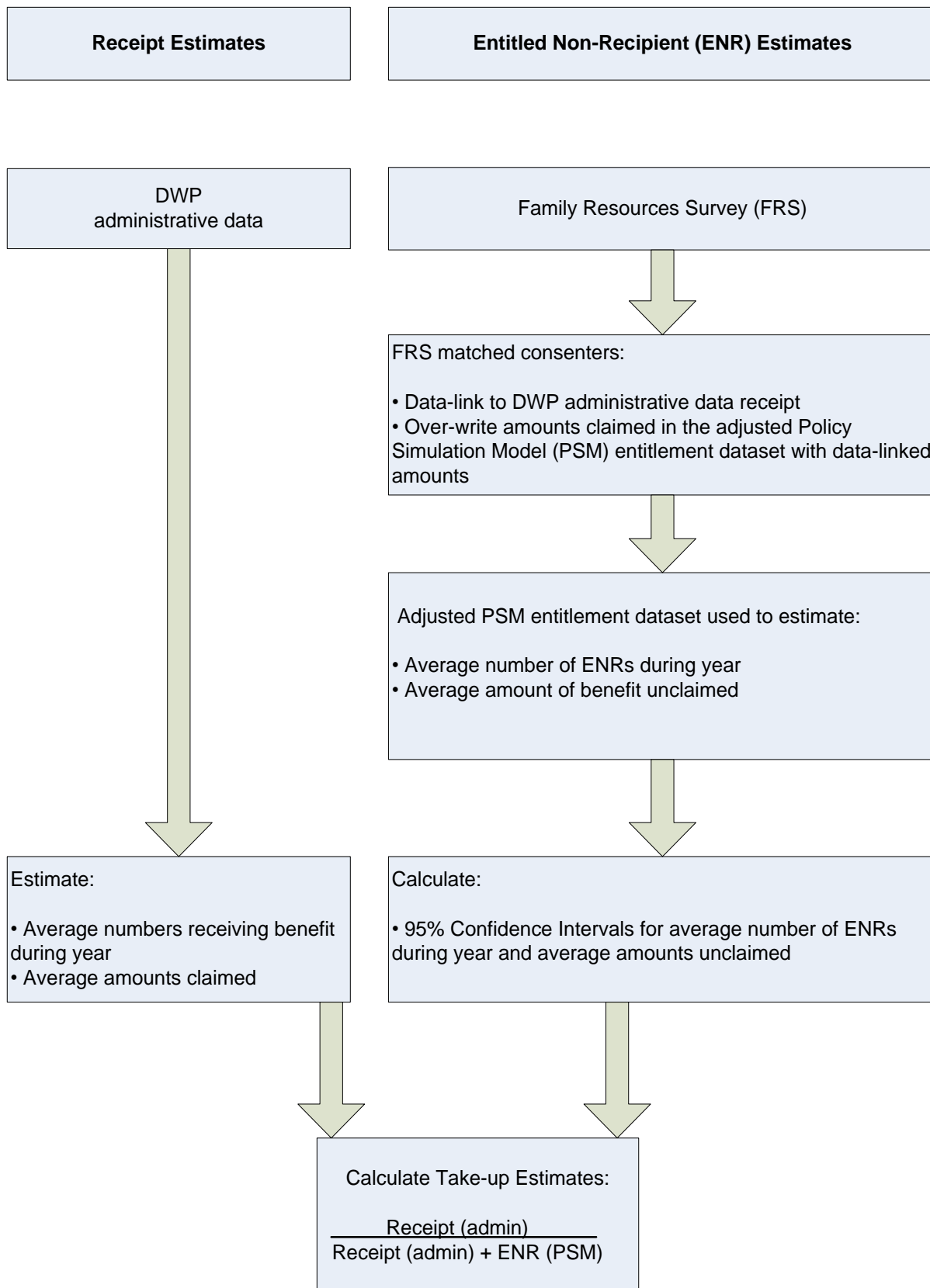
Overview

To produce the take-up estimates, information can be taken from DWP administrative data sources to present the average number of those in receipt of the benefit along with the average amount claimed. However, in the absence of an official benefit entitlement dataset which provides information of those who are entitled but not receiving (ENRs), estimates of the ENR caseload and unclaimed amounts are required. The methodology used aims to provide the best estimate based on the evidence available, using the FRS. At the same time, there are limitations with the methodology as there are known data issues in the FRS; and also due to the inability to link to administrative data for around half the FRS population, either because respondents did not give consent to do so or it was simply not possible to match data.

This report presents the new methodology below, which is strongly focused on using what evidence is available from administrative sources and FRS, to produce the take-up estimates.

The flow diagram on the following page illustrates how the methodology works -

Take-Up Estimates Process Flow Diagram



Data sources

Overview

The take-up estimates are derived using information taken directly from a number of data sources. A small number of evidence-based adjustments are introduced where necessary.

The Work and Pensions Longitudinal Study (WPLS) is the main data source for estimating receipt of Pension Credit, Income Support (IS) and Income-related Employment and Support Allowance (ESA (IR)).

The Quarterly Statistical Enquiry (QSE) is the main data source used for income-based Jobseeker's Allowance (JSA (IB)) receipt estimates.

The Single Housing Benefit Extract (SHBE) is the main data source used for Housing Benefit (HB) receipt.

ENR estimates are for private households only. For consistency, the QSE is also used to adjust the receipt estimates for PC, JSA (IB) and IS/ESA (IR) to exclude any non-private households.

For ENR estimates, a combination of an adjusted entitlement dataset from the Policy Simulation Model (PSM) and reported receipt from the Family Resources Survey (FRS) are used. In the production of the adjusted PSM entitlement dataset, certain benefit units are linked to their administrative records on the WPLS for estimating ENRs of PC, JSA (IB) and IS / ESA (IR) and SHBE for HB to use actual amounts paid rather than reported FRS amounts.

Work and Pensions Longitudinal Study (WPLS)

The WPLS links DWP benefit and programme data on customers with their employment records from Her Majesty's Revenue and Customs (HMRC).

The WPLS is used to produce receipt estimates for PC and IS/ESA (IR) as it provides 100 per cent DWP administrative records for all those receiving the benefits. The datasets are available quarterly.

<https://www.gov.uk/government/statistics/work-and-pensions-longitudinal-study>

Quarterly Statistical Enquiry (QSE)

The QSE is a quarterly electronic scan of 5 per cent of DWP administrative records of all those receiving JSA.

JSA (IB) receipt estimates are derived using the QSE data as the WPLS does not provide information on the type of JSA the recipient is receiving. Therefore, those receiving contributory JSA (C) only cannot be excluded from the estimates.

The other key use of the QSE data is to identify the proportion of benefit units that are private households in the receipt estimates for PC, IS/ESA (IR) and JSA (IB). It is applied to the initial average numbers receiving each benefit. This adjustment

ensures the estimate of the average numbers receiving each benefit is consistent with the estimate of the average number of ENRs, which are for private households only.

<https://www.gov.uk/government/collections/dwp-statistical-summaries>

Single Housing Benefit Extract (SHBE)

SHBE is a monthly electronic scan taken directly from local authority computer systems and provided to DWP for analysis.

The data are used as they provide 100 per cent administrative records for all those receiving HB. As only private households can receive HB, no adjustment is needed to remove non-private households for the receipt estimates. SHBE is also used to data-link with FRS matched consenters for the ENR estimates.

<https://www.gov.uk/government/collections/housing-benefit-and-council-tax-benefit-caseload-statistics--2>

Family Resources Survey (FRS)

The FRS is an annual survey, collecting information on around 20,000 private households in the United Kingdom, although only GB information is used in this analysis. The primary function is to collect information on household income claimed from all sources, including wages and salaries, state benefits, payable Tax Credits, private (occupational and personal) pension schemes, and investments. The information allows analysis at an individual level, benefit unit level and household level. The survey is sponsored by the Department for Work and Pensions.

As well as being the main data source for the PSM, information is taken directly from the FRS to identify reported receipt of the income-related benefits, where data-linking was not possible.

Policy Simulation Model (PSM)

The DWP's PSM is a static micro simulation model of the UK tax and benefit system. It takes reported information from the FRS on benefit units and then simulates (or models) what the benefit unit might be entitled to or earn based on the tax and benefit rules in the FRS year. The model estimates what a similar benefit unit, with those same characteristics, might be entitled to or earn for future financial years, accounting for the tax and benefit rules in that future year. The PSM is used extensively by DWP analysts for policy evaluation and costing of policy options.

The PSM is used in the derivation of the ENR estimates, as it provides a readily-available modelled entitlement dataset for the income-related benefits being presented in this report. Some important adjustments are made to the entitlement dataset to provide more precise initial estimates of ENRs and their average weekly amounts unclaimed.

Estimating receipt

Overview

Receipt estimates of PC, IS/ESA (IR) and JSA (IB) are taken from their respective data sources and adjusted to represent private households only. Since HB is only available to private households, HB receipt is taken directly from the data source. Estimates of average amounts claimed are not adjusted as private households account for around 95 per cent of all households receiving PC, IS/ESA (IR) and JSA (IB). It is assumed that the average amounts claimed data remains representative of private households.

Pension Credit

The WPLS is used to estimate the average number of those receiving PC and average amounts claimed for the financial year, using data taken at the end of each quarter. Estimates are produced for the type of PC claimed (whether Guarantee Credit and/or Savings Credit) and by family type.

The estimated average number of those receiving PC is then adjusted using the proportion of private households of all households. This removes around 5 per cent of those in receipt of PC from the estimate. The average amounts estimated are not adjusted as it is assumed that these amounts remain representative of the private households, which account for 95 per cent of all households in receipt.

Housing Benefit

SHBE datasets from each month of the financial year are combined and a 12 month average estimated for the number of those receiving HB and average amounts of HB claimed. HB is only available to people living in private households.

Jobseeker's Allowance (Income-based)

The report produces take-up estimates of JSA (IB); this includes benefit units who are in receipt of both JSA (IB) and JSA (C). For these particular cases the QSE data cannot identify how much of the JSA amount paid is JSA (C) and how much is JSA (IB). Those benefit units in receipt of both types of JSA represent around 1-2 per cent of all JSA recipients in the data. Therefore, since JSA (IB) amounts represent approximately 99 per cent of all recorded amounts, the overall JSA payment is assumed to be JSA (IB). Data are taken from the QSE at the end of each quarter of the financial year and the average number of those receiving JSA (IB) and average amount claimed is estimated.

The proportion of private households of all households receiving JSA (IB) is applied to the total number of those receiving JSA (IB). The adjustment removes around 5 per cent of benefit units receiving JSA (IB). There is no adjustment made to the average amounts claimed as it is assumed that these amounts remain representative of the private households, which account for 95 per cent of all households in receipt.

Income Support and Employment and Support Allowance (Income-related)

The report presents combined IS and ESA (IR) take-up estimates however IS and ESA(IR) are recorded separately on the WPLS. In order to obtain estimates for the overall average number of those receiving IS or ESA (IR) and the overall average amount of IS or ESA (IR) claimed data are taken at the end of each quarter of the financial year for each benefit. The overall receipt estimate for IS/ESA (IR) are then produced by adding the average numbers for each benefit together.

Overall average number of benefit units receiving IS/ESA (IR):

$$\begin{aligned} & \text{Average number of benefit units receiving IS in the year +} \\ & \text{Average number of benefit units receiving ESA (IR) in the year} \end{aligned}$$

The proportion of private households of all households receiving IS is then applied to the overall average number of those receiving IS/ESA (IR). It is assumed that the proportion is the same as for ESA (IR). This adjustment removes around 1 per cent of families receiving IS/ESA (IR).

To produce the estimate of overall average amounts claimed for IS/ESA (IR), the average total weekly expenditure for IS and for ESA (IR) are added together and then divided by the overall average numbers of families receiving IS or ESA (IR):

$$\begin{aligned} & \text{Average number of benefit units receiving IS in the year * Average amount of IS claimed +} \\ & \text{Average number of benefit units receiving ESA (IR) in the year * Average amount of ESA (IR)) /} \\ & \text{Average number of benefit units receiving IS/ESA (IR) in the year} \end{aligned}$$

The average amounts estimated are not adjusted as it is assumed that these amounts remain representative of private households, which account for 99 per cent of all households in receipt of IS/ESA (IR).

Comparisons with published DWP estimates

As the take-up receipt estimates for PC, JSA (IB) and IS/ESA (IR) focus on private households only, these are lower than published DWP estimates, which include all households. For HB, the take-up receipt estimates for 2012/13 onwards are similar to published DWP estimates. However, for 2009/10, the take-up receipt estimates are slightly lower. For 2009/10, bespoke SHBE datasets were produced for months April 2009 to November 2009 to capture the necessary information for breakdowns by family type, tenure type and employment status. These bespoke datasets were combined with the December 2009 to March 2010 datasets and a 12 month average number of those receiving HB and average amounts of HB claimed were estimated.

Estimating Entitled Non-Recipients (ENRs)

Overview

The DWP administrative data sources do not record information on those entitled to a benefit but not receiving it (ENRs). Therefore, a combination of an adjusted entitlement dataset from the DWP's Policy Simulation Model (PSM), which includes some linking to WPLS administrative data, and reported receipt data from the Family

Resources Survey (FRS) are used to produce the average number of ENRs and average amounts unclaimed.

In order to produce the ENR estimates, some bespoke adjustments are made to the PSM entitlement dataset.

FRS matched consenters are families where consent was given by both the 'head' of the benefit unit and any partner interviewed in the FRS to link to their administrative record and it was possible from the data provided to accurately match to administrative data.

For benefit units that are non-consenters or did not fit the criteria to be data-linked, modelled PSM entitlement for the benefit is compared to FRS reported receipt of the benefit.

Each benefit unit is categorised into one of the following groups:

- Entitled not receiving (ENRs);
- Entitled receiving (ERs); or
- Not entitled, not receiving (NENRs).

From this, the average numbers of ENRs and the average amounts unclaimed are estimated, along with 95 per cent confidence intervals to reflect uncertainty. These estimates are combined with the receipt estimates to produce the lower range, central and upper range take-up estimates.

It should be noted that, if existing, any 'non-entitled recipients' are assumed to be entitled to the benefits they get.

The PSM entitlement dataset

For each financial year, the PSM produces a UK-based entitlement dataset. Key characteristics are taken from the FRS and the PSM models entitlement to each of the income-related benefits by applying the tax and benefit system rules to each benefit unit. The dataset retains reported FRS characteristics such as family type, age, marital status, tenure type and employment status, but the modelled entitlement amount of income-related benefit is used and this may differ from the reported FRS amount.

The PSM models uptake of UC by using an estimate of UC entitlement to move a proportion of those entitled to other benefits onto it and those modelled as being entitled to UC are not included in the JSA ENRs.

Where a benefit unit has a member aged over the PC qualifying age but under State Pension age, or one member is above PC qualifying age and one member below (a mixed age couple), the PSM models entitlement to PC only. This is a simplification of the benefit rules, as these benefit units can choose to claim PC or one of JSA (IB), IS or ESA (IR). However, analysis of DWP administrative data shows that the vast majority of these benefit units would choose to claim PC. Figures from February 2010 (at which point the qualifying age for PC was 60), show that there were 432,000 recipients of PC aged 60 to 64, compared with 25,000 recipients of Employment and

Support Allowance and 17,000 recipients of Jobseeker's Allowance (figures were derived from the DWP Tabtool).

Adjusting the PSM entitlement dataset

The bespoke adjustments made to the PSM entitlements are:

- Exclusion of Northern Ireland benefit units;
- Removal of National Minimum Wage adjustment;
- Modelling of work search activity for JSA (IB) entitlement and entitlement group allocation for JSA (IB) and IS/ESA (IR);
- Grossing-up to Great Britain control totals;
- Data-linking to DWP administrative receipt records for FRS matched consenters; and
- Inclusion of FRS reported receipt and awaiting the outcome of claim information for each income-related benefit.

a) Exclusion of Northern Ireland benefit units

The take-up estimates are only provided for Great Britain. Therefore, the UK- based PSM entitlement dataset is adjusted to remove any Northern Ireland benefit units, so that the average number of ENRs and average amounts unclaimed are on the same basis as the receipt estimates.

b) Removal of National Minimum Wage adjustment

The PSM includes an adjustment for the NMW. This adjustment was not included in the PSM entitlement datasets used for the Take-up Statistics, that is, no adjustment is made to the earnings data reported in the FRS.

c) Modelling of work search activity for JSA (IB) entitlement and entitlement group allocation for JSA (IB) and IS/ESA (IR)

The PSM initially models entitlement to JSA (IB) or IS or ESA (IR) together, as the overall entitlement criteria for these 'out of work' benefits are similar. Then benefit units are categorised into the relevant benefit groups based on further specific criteria for each benefit. This allocation depends on the accuracy of information for the benefit unit to be able to assess them against the specific criteria.

To receive JSA (IB), a benefit unit has to sign on and indicate their willingness to work. While the PSM currently captures information on whether a benefit unit is signing on, further modelling was included to capture a benefit unit's willingness to work, using the following FRS questions:

- 'Have you been looking for work in the last four weeks?'
- 'Are you available to start work in the next two weeks?'

Additionally, benefit units in work were modelled as entitled to JSA (IB), as long as claimants fulfilled the criteria around income and hours.

This bespoke modelling of work search activity provides more precise information to allocate benefit units correctly to the JSA (IB) group, by not only identifying benefit units that are actually signing on, but also benefit units that are willing to work and meet other criteria to receive JSA (IB) while in work.

d) Grossing-up to Great Britain control totals

Grossing-up is the term usually given to the process of applying factors to sample data so that they yield estimates for the overall population. The simplest grossing system would be a single factor e.g. the number of households in the population divided by the number in the achieved sample of a survey. However, surveys are normally grossed by a more complex set of grossing factors that attempt to correct for differential non-response at the same time as they scale up sample estimates.

The bespoke grossing control variables, in addition to population grossing control variables, along with their breakdowns and data sources used to gross up the PSM entitlement dataset to the GB population are -

Grossing Control Variable	Breakdowns Used	Data Source
Household numbers	Country and region	Housing statistics - Department for Communities and Local Government (DCLG)
Housing tenure (household level)	None – GB level only	Housing statistics - DCLG
Council Tax bands (household level)	None – GB level only	Council Tax statistics - DCLG, Scottish Government and Welsh Assembly
Employment (individual level)	Age and gender	Employment caseloads - Office for Budget Responsibility (OBR) using Labour Force Survey data
Caseloads for non-income related benefits (individual or benefit unit level)	Age and gender	Administrative data for AA, DLA/PIP, IB/SDA and Contributory ESA - DWP

e) Data-linking to DWP administrative receipt records for FRS matched consenters

There is a known issue of under-reporting benefit receipt in the FRS. Therefore, to improve the accuracy of identifying the number of ENRs estimated in the PSM entitlement dataset, data-linking allows recorded benefit amounts in DWP administrative data to replace reported FRS receipt or modelled PSM receipt in the PSM entitlement dataset.

FRS respondents are asked for consent to link their records to DWP administrative data. Data-linking is only applied where:

- Consent was given by both the 'head' of the benefit unit and any partner.
- It was possible to match an individual's record to administrative data.

To do this matching, various combinations of seven variables that exist on both the FRS consentor and WPLS datasets are used. The seven variables are:

- Date of Birth
- Initial of Forename
- Full Forename
- Surname
- Gender
- Postcode sector (i.e. the first half plus first digit of second half)
- Full Postcode

Given that it may not be possible to match on all seven of these variables for an individual – e.g. the full forename may be written differently or missing comparing the FRS consentor and WPLS data – a matching hierarchy is used to define which combinations of variables are required to produce a good enough match.

Hence, around half of the FRS respondents met the above criteria to be data-linked for each year in this analysis. Benefit units in this group were categorised as FRS matched consentors and the remaining benefit units were categorised as non-consenting/unmatched in the PSM entitlement dataset.

For FRS matched consentors, benefit units were data-linked to SHBE data for HB and WPLS data for:

- State Pension (SP)
- Pension Credit (PC)
- Disability Living Allowance care component (DLA (Care))
- Attendance Allowance (AA)
- Income Support (IS)
- Income-related Employment Support Allowance (ESA (IR))
- Jobseeker's Allowance – income-based (JSA-IB)

While an imperfect assumption, information from administrative sources is always given precedence over survey data with the amount from administrative data overwriting the amount in the PSM entitlement dataset for each data-linked benefit. This gives a more precise amount of benefit receipt and entitlement for the income-related benefits for estimating the numbers of ENRs.

Note, in addition to PC, data-linking to SP was carried out as these two payments are commonly confused by pensioners. By having a more accurate amount for SP, the PSM can then model entitlement to PC more accurately. Data-linking to DLA (Care) and AA were carried out as amounts for these benefits are commonly under-reported in the FRS. Accurate amounts for these benefits helps to improve the accuracy of the PC entitlement modelling as receipt of these benefits can indicate that an additional amount should be added to the appropriate minimum guarantee level in PC.

Statistical tests were carried out to determine whether characteristics of FRS matched consenters had changed over the time period. It was concluded that the characteristics were not statistically different across the years. Therefore, any changes seen in the number of ENRs between 2009/10 and 2014/15 could not be attributed to changes in the characteristics of the proportion of FRS matched consenters of all the benefit units.

Similar tests were carried out on the non-consenting/unmatched group when the new methodology was being developed. It was concluded that applying any assumptions to the non-consenting/unmatched group based on information seen in the FRS matched consenters group would not be statistically valid and would increase uncertainty surrounding the ENR estimates.

f) Inclusion of FRS reported receipt and awaiting the outcome of a claim information for each income-related benefit

The final adjustment made to the PSM entitlement dataset is to include some additional information from the FRS:

- Reported receipt of benefit: This information will be used along with PSM modelled entitlement to identify which benefit units are modelled to be entitled but not receiving.
- Awaiting an outcome of a claim: If at the point of the FRS interview, a benefit unit is awaiting an outcome of claim, the PSM models them to be an ENR as they are not reporting receipt. Any subsequent receipt of the benefit following the outcome could be picked up if the benefit unit is a FRS matched conserter and they would be modelled as an entitled recipient. However, for non-consenting/unmatched cases, they could remain an ENR. Therefore, it is assumed that if the benefit unit reports they are awaiting an outcome of a claim and the PSM models them as entitled, it is likely that they would have gone on to receive the benefit and are categorised as Entitled Recipients.

Estimating ENRs

Following the adjustments to the PSM dataset, each benefit unit is categorised into one of the following groups:

- Entitled Not Receiving (ENRs)
- Entitled Receiving (ERs)
- Not entitled, not receiving (NENRs)

FRS matched consenters who are shown to be receiving benefit according to the data-linking to administrative data are automatically allocated to the ER group. FRS matched consenters who are not receiving benefit according to the data-linking to administrative data are classed as either ENRs or NENRs depending on whether they are modelled as entitled according to the PSM.

For benefit units that are non-consenting/unmatched, modelled PSM entitlement to the benefit is compared to FRS reported receipt of the benefit to determine whether

they are an ER, ENR or NENR. If the benefit unit reports they are awaiting an outcome of a claim and the PSM models them as entitled to the benefit, it is assumed that the benefit unit is an ER.

Finally, the average numbers of ENRs and the average amounts unclaimed are estimated by specific types and breakdowns for each income-related benefit. Due to small sample sizes for certain characteristics, further detailed breakdowns have not been possible.

Uncertainty in the receipt and ENR Estimates

Overview

The receipt and ENR estimates are fully reliant on the accuracy of the data used and any subsequent adjustments, evidence-based assumptions and modelling. Any errors in the data or these processes will affect uncertainty around the estimates.

Uncertainty in the receipt estimates is assumed to be marginal due to the processes in place to produce accurate DWP administrative data for publication as statistics.

For the ENR estimates, the level of uncertainty is higher as they are reliant on reported information from FRS sample data and the subsequent modelling of entitlement in the PSM. Therefore the estimates are affected by known areas of uncertainty surrounding survey results and using a model to estimate ENRs. While processes are in place to limit this uncertainty, such as the data-cleaning of FRS responses to produce the published FRS dataset and continuous development of the PSM methodology, confidence intervals are used to present the uncertainty in the final take-up estimates. Note that confidence intervals only estimate the sampling error, the difference between the sampled and population values, and do not include other forms of uncertainty.

Areas of uncertainty

a) Use of administrative data

It is assumed that DWP administrative data are an accurate record of benefit receipt. In particular we accept all benefit recipients as being entitled with any 'non-entitled recipients' ignored for the purpose of this publication. However, the data are subject to error at all stages of the process of data collection: from recipients giving inaccurate information, to input error, to data cleaning and analysis.

Adjusting the PC, IS/ESA (IR) and JSA (IB) receipt estimates to remove any non-private households introduces a small element of uncertainty. This is because it is assumed that the proportions of private households of all households for the 5 per cent scan of the benefit recipients are representative of all the benefit recipients.

b) Use of survey data

The size of the FRS sample and the way in which the sample is selected is carefully designed to ensure that it is representative of the UK as a 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.

The FRS is subject to the nuances of using a survey, including:

- **Sampling error:** Two different random samples from one population 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. This level of sampling error varies to a greater or lesser extent depending on the level of breakdowns at which results are presented.
- **Non-response error:** The FRS response rate in 2014/15 was 58 per cent. In an attempt to correct for differential non-response, estimates are weighted using population totals.
- **Survey coverage:** The FRS covers private households in the United Kingdom. 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 many of those at this age will have moved into homes where they can receive more frequent help.
- **Survey design:** The FRS uses a clustered sample designed to produce robust estimates at region level. The FRS is therefore not suitable for analysis below this level.
- **Sample size:** The FRS has a relatively large sample size for a household survey. 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.

c) Under-reporting receipt and benefit confusion in the FRS

There is a known issue of benefit under-reporting in the FRS. Sometimes the FRS respondents confuse which benefit they are receiving. For example, there is often confusion over State Pension (SP) and PC payments. So a benefit unit may not realise they are receiving PC and report the overall payment they receive as SP. Therefore, there is an over-reporting of the SP amount paid and under-reporting of the PC amount paid. Processes are in place for the FRS interviewer to check these responses against other questions, if there is a discrepancy. Further data-cleaning is carried out once the survey is completed to check whether responses from the benefit unit taken across the questionnaire are consistent. However, even with these processes in place, there remains scope for uncertainty and remaining under-reporting of benefit receipt.

As a result, it is possible that the PSM categorises a benefit unit into the wrong group. In the example above, the benefit unit could be modelled as an ENR, despite receiving PC as they did not report receipt or give an amount in the FRS interview. In other situations, the benefit unit might not report important information which is used to identify which group they should be allocated to, such as work search activity for JSA (IB) or receiving Attendance Allowance for the estimation of PC and HB entitlement.

To reduce under-reporting and benefit confusion, data-linking allows recorded benefit amounts in DWP administrative data to replace reported FRS receipt or modelled PSM receipt in the PSM entitlement dataset. However, this is only possible for some benefit units.

d) Data-linking for FRS matched consenters only

As noted above only a partial sample of benefit units is data-linked in the PSM entitlement dataset. As a result, this adjustment only partially corrects for under-reporting and confusion of benefit receipt in the FRS.

Where a benefit unit might have been modelled as an ENR but data-linking indicated that they were receiving a payment, the benefit unit would be categorised as an entitled recipient (ER) and the average numbers of ENRs reduced as a result. However, where benefit units are non-consenters/unmatched, it is possible for it to remain an ENR but actually receive the benefit.

Additionally, there is not enough information on the FRS to identify whether the family is being sanctioned while receiving JSA (IB) or ESA (IR). In this instance, a family could report zero payment of JSA (IB) but the PSM model them as entitled, resulting in them being categorised as an ENR. Data-linking would overcome this if the family was a FRS matched consenter, as the recorded benefit payment would be used and the family would be categorised as an ER. However, if the family was in the non-consenting/unmatched group, they would remain as an ENR.

e) Incorrect modelling of entitlement

Incorrectly modelling of the tax and benefit system rules in the PSM could result in:

- Over-statement of entitlement: where the benefit unit is incorrectly modelled to be entitled and/or the modelled amount is too high.
- Under-statement of entitlement: where the benefit is incorrectly modelled to not be entitled and/or the modelled amount is too low.

Processes are in place to regularly review and develop the modelling to ensure the PSM accurately represents the tax and benefit system rules for each year. However, as it is heavily reliant on reported information in the FRS, the PSM inherits the areas of uncertainty of the FRS.

f) Inaccurate grossing-up to the GB population

The PSM grossing regime uses a number of control variables to ensure that various characteristics of the benefit units are considered in deriving the grossing factors. But it is another potential source of uncertainty as it does assume that many of the characteristics of the ENR sample are representative of all GB benefit units.

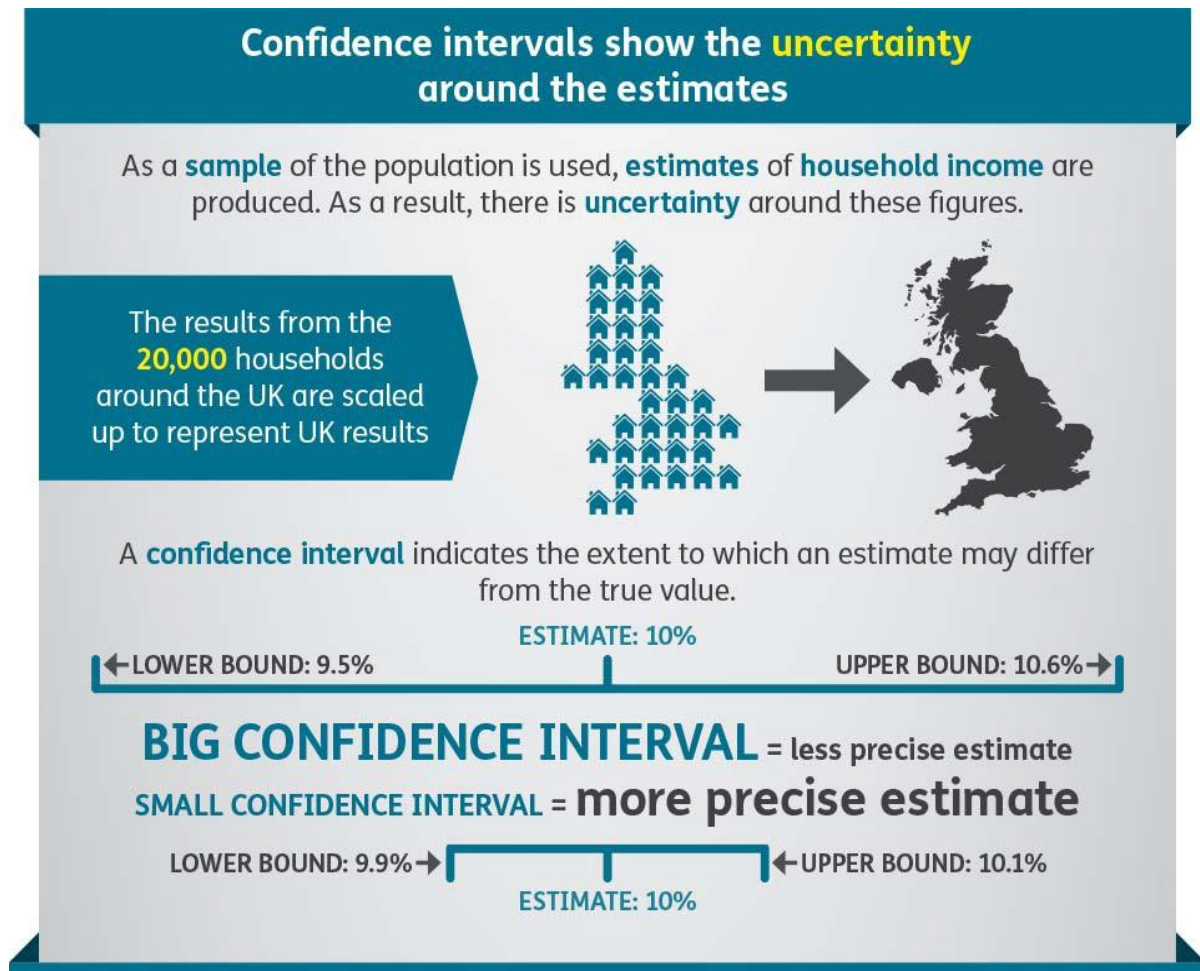
Confidence intervals for the ENR Estimates

Overview

As the ENR estimates are heavily reliant on the FRS sample, the level of uncertainty can be estimated by exploring how that estimate would change if many survey

samples were drawn for the same time period instead of just one. From this, a range around the estimate can be defined, known as a confidence interval. This indicates 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 to be 95 per cent certain that the true value lies within the range, known as a 95 per cent confidence interval.

The following info-graphic summarises the purpose of confidence intervals.



Method

The 'variance estimation based on sample design' method was used to produce confidence intervals for the take-up estimates as:

- The sampling frame of the FRS is taken into consideration in this method.
- It is appropriate when calculating the prevalence of a characteristic in a population, such as those entitled and not receiving.

The ENR estimates are derived from the adjusted PSM entitlement dataset rather than the published FRS dataset. However, this should not affect the sampling error, as this occurs at the stage of the sampling, and therefore any modelling of FRS sample benefit units in the PSM should not affect the confidence intervals. The confidence intervals provide a lower and upper range for the average number of ENRs and the average amount unclaimed. These estimates, along with the central estimates are incorporated into the take-up formulae.

Estimating take-up rates

Overview

The take-up rates are based on the following definition:

$$\frac{\text{In Receipt}}{\text{In Receipt} + \text{Entitled Not in Receipt}}$$

Where the take-up rate is defined as the proportion receiving the benefit of all those entitled (that is those receiving the benefit and those who are entitled but not receiving the benefit).

Caseload and expenditure take-up rates are estimated. A point estimate is calculated using the central estimate of those not in receipt. The lower and upper take-up bounds are calculated using the upper and lower bound estimates of those not in receipt are also used to estimate.

Caseload formulae

The formulae for lower range, central estimate and upper range are -

	Caseload formula
Lower Bound	Average number of benefit units receiving benefit / Average number of benefit units receiving benefit + Upper average number of benefit units ENRs
Point Estimate	Average number of benefit units receiving benefit / Average number of benefit units receiving benefit + Central average number of benefit units ENRs
Upper Bound	Average number of benefit units receiving benefit / Average number of benefit units receiving benefit + Lower average number of benefit units ENRs

Expenditure formulae

For the expenditure formulae, the average weekly amounts claimed (received) and unclaimed (not received) are converted to yearly amounts.

The expenditure take-up formulae are -

	Expenditure formula
Lower Bound	Total amount of benefit received / Total amount of benefit received + Upper total amount of benefit not received
Point Estimate	Total amount of benefit received / Total amount of benefit received + Central total amount of benefit not received
Upper Bound	Total amount of benefit received / Total amount of benefit received + Lower total amount of benefit not received

The formulae for the total amount of benefit received and not received are -

	Total amount of benefit received formula	Total amount of benefit not received formula
Lower Bound	Average number of benefit units receiving benefit * Average amount of benefit received * Week to Year Factor	Upper total= Upper average number of benefit units ENRs * Upper average amount not received * Week to Year Factor
Central Estimate	Average number of benefit units receiving benefit * Average amount of benefit received * Week to Year Factor	Central total= Central average number of benefit unit ENRs * Central average amount not received * Week to Year Factor
Upper Bound	Average number of benefit units receiving benefit * Average amount of benefit received * Week to Year Factor	Lower total= Lower average number of benefit units ENRs * Lower average amount not received * Week to Year Factor