



HM REVENUE & CUSTOMS
KAI Benefits and Credits

**Child Benefit, Child Tax Credit
and Working Tax Credit**

Take-up rates

2009-10

Child Benefit, Child Tax Credit and Working Tax Credit Take-up Rates 2009-10

For general enquiries relating to tax credits, including information on eligibility and advice on making a claim, please see HM Revenue and Customs' website: <http://www.hmrc.gov.uk/taxcredits/index.htm>, or contact the Tax Credits Helpline: 0845 300 3900

Similarly for general enquiries relating to Child Benefit, including advice on making a claim, please refer to HMRC's website: <http://www.hmrc.gov.uk/childbenefit/index.htm>, or contact the Child Benefit Helpline: 0845 302 1444

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Child Benefit, Child Tax Credit and Working Tax Credit

Take-Up Rates 2009-10

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Introduction

Child Benefit, Child Tax Credit and Working Tax Credit

Child Benefit is a tax-free payment that families can claim for their children (including qualifying 16-19 year old young people in full-time non-advanced education or approved training). It is usually paid every four weeks but in some cases can be paid weekly. The payment can be claimed by anyone who qualifies, whatever their income or savings. Separate rates are payable for the only/eldest child and any subsequent children.

Tax credits are based on household circumstances and can be claimed jointly by members of a couple, or by singles. Entitlement is based on the following factors:

- age
- income
- hours worked
- number and age of children
- childcare costs
- disabilities

Child Tax Credit (CTC) is a form of income-related support for children and for qualifying young people aged 16-19 who are in full time non-advanced education or approved training, payable to the main carer. Families can claim whether or not the adults are in work.

Working Tax Credit (WTC) provides in-work support for people on low incomes, with or without children. WTC is available to those working 30 hours or more a week, or in the case of those with children or a disability, those working 16 hours or more a week.

This publication

Child Benefit take-up rates measure the proportion of eligible children and young people who have Child Benefit claimed on their behalf. Tax credit take-up rates measure the proportion of eligible families who claim (the caseload take-up rate), as well as the proportion of available financial support which is claimed (the expenditure take-up rate)¹.

This publication presents estimates of annual take-up rates for Child Benefit and for CTC and WTC, covering the 2009-10 financial year. In the case of tax credits, it also presents estimates for the number of entitled non-recipient families, and the amount of available expenditure which is unclaimed. The results from this publication, and those of previous years, can be found on the HMRC website at:

<http://www.hmrc.gov.uk/stats/personal-tax-credits/cwtc-take-up.htm>

The publication is structured as follows:

¹ The Child Benefit take-up rate is measured on a per child basis because separate Child Benefit claims are usually made for each child. In contrast, in tax credits, claims are made by families (single or couple adults) and additional children are simply treated as a change in circumstances; as a result the take-up rate for tax credits is measured on a per family basis.

- Key results and comparisons with previous publications are given in the next section.
- This is followed by a general description of the methodology (more details are contained in a Technical Annex at the end of the publication).
- In part A, a single table shows the Child Benefit caseload take-up rate, with associated upper and lower bounds. To assist in comparing changes over time, this table contains figures for each year from 2006-07 up to and including 2009-10.
- In part B, tax credit take-up rates are presented. Most of the tables in part B have a similar format:
 - The first column presents caseload or expenditure estimates derived from administrative data;
 - The following three columns contain estimates of the number of entitled non-recipients, or the amount of tax credits unclaimed, and are given as central estimates with upper and lower bounds.
 - The final three columns show take-up rates by caseload and expenditure, each with a central estimate and upper and lower bounds.

The exceptions are tables 1b and 2, where take-up rates alone are shown. Both these tables show how take-up rates have changed over time.

Caseload figures are shown in thousands and are rounded to the nearest 10,000; expenditure figures are in millions and are rounded to the nearest £10 million. Some figures in the tables may not sum due to rounding.

- The final section is a Technical Annex which gives a more detailed discussion of the methodology.

Key Results and comparisons with previous publications

Child Benefit

- **The central estimate of the Child Benefit take-up rate in 2009-10 is 96 per cent.**

The estimated Child Benefit take-up rate remained at 96 per cent between 2008-09 and 2009-10. Whilst there was an increase in the Child Benefit caseload over the period, the number of eligible children also increased which left the take-up rate unchanged.

Tax credits

- **The central estimate of the Child Tax Credit caseload take-up rate in 2009-10 is 81 per cent.**
- **The central estimate of the Working Tax Credit caseload take-up rate in 2009-10 is 61 per cent.**

The estimated Child Tax Credit (CTC) caseload take-up rate increased by 1 percentage point between 2008-09 and 2009-10. This change is not statistically significant at the 5 per cent significance level, and arises from an increase in the caseload compared to the number of entitled non-recipients.

For Working Tax Credit (WTC), the central estimate of the caseload take-up rate rose by 3 percentage points between 2008-09 and 2009-10, an increase which is not statistically significant at the 5 per cent significance level. The WTC take-up rate was unchanged for families with children but rose for WTC only households without children (from 23 to 27 per cent). This increase was driven by a very substantial increase in the WTC only caseload of around 77 thousand, together with a more modest decrease in the estimated number of entitled non-recipients.

Changes in the rates and thresholds in the tax credit system affect the number of families entitled to tax credits, and the size of their entitlements. In certain years there have been large changes in entitlements which have had a noticeable effect on take-up rates. This is most obvious from 2006-07 onwards, when the disregard for increases in income rose to £25,000, which had the effect of increasing the number of entitled families (especially the number of entitled non-recipients) and consequently depressed the take-up rate.

More details regarding the comparability of specific tables with previous publications are contained in the Methodology section.

Methodology

Child Benefit

Child Benefit take-up rates are estimated on the new basis of calculation discussed in the 2008-09 publication, and the approach used is set out briefly below. A more detailed description of the method used is available in the Technical Annex.

The data used

Three separate data sources are used to produce Child Benefit take-up rate estimates. These are:

- **Administrative data**: this is based on periodic extracts of 100% data from the Child Benefit Computer System. Due to interruptions in the delivery of this data, assumptions have had to be made for missing periods – more details are given in the Technical Annex.
- **The Family Resources Survey (FRS)**: this is a household survey carried out by the Department for Work and Pensions, which collects a wide range of information relating to (amongst other things) family circumstances and income, which can be used to model families' entitlement to Child Benefit.
- **The Labour Force Survey (LFS)**: this is a quarterly household survey covering, amongst other things, the education and training activities of young people aged 16 and over.

Definition of the take-up rate

The Child Benefit take-up rate is defined as follows:

$$\frac{C_A}{C_A + (ENR_{FRS} - BD_A) + (ENR_{FRS\ 16-19} \times AF_{LFS})}$$

Where:

C_A	is the administrative caseload (the estimated number of children and young people for whom Child Benefit is in payment);
ENR_{FRS}	is the estimated number of children and young people aged 16-19 in full-time education or approved training who are eligible for a Child Benefit payment, but whose parents do not receive Child Benefit for that child, based on the FRS;
BD_A	is a deduction made for backdating, since some of those who appear to have an eligible child for whom they have not claimed will have made a claim which is backdated to cover the FRS interview date;
$ENR_{FRS\ 16-19}$	is the estimated number of ENR children and young people present within families containing a 16-19 year old, also based on the FRS;
AF_{LFS}	is an adjustment factor to the number of young people aged 16-19 in full-time education, based on the LFS.

The take-up rate is presented as a central estimate around which there are upper and lower bounds. These bounds represent a combination of uncertainty arising from sampling error, and uncertainty around the size of the age 16-19 eligible population. More details about these issues are given in the Technical Annex.

Tax Credits

Entitlement to tax credits in 2009-10 depended on family circumstances in that year (such as number of children, use of eligible childcare, or disability) and incomes in 2008-09 and 2009-10. The first £25,000 of any increase in income between 2008-09 and 2009-10 was disregarded for tax credit purposes.

There are a number of methodological challenges involved in estimating take-up rates for CTC and WTC, many of which have been dealt with fully or partially in the analysis undertaken to produce this publication, and others which remain unaddressed. The Technical Annex of the publication gives a fuller treatment of these issues.

Out-of-work families with children receive their child support either via Child Tax Credit, or through child allowances in out-of-work benefits (Income Support, income-based Jobseeker's Allowance or the pensioners' Minimum Income Guarantee). For publications prior to 2006-07, sufficiently detailed information on the annual incomes or level of child allowances received was not available, so tables 4 to 9 in the 2003-04, 2004-05 and 2005-06 publications were restricted to in work families only.

From 2006-07 onwards there has been enough information to accurately estimate the caseload and expenditure of out-of-work families who receive their child support through the child allowances in out-of-work benefits. Therefore tables 4 to 9 now include both out-of-work and in-work families. This means that these tables are not directly comparable with those in publications prior to 2006-07.

The data used

Three separate data sources have been used to produce the take-up rate estimates. A brief description of these sources is given below; more details are provided in the Technical Annex.

- **Administrative data:** various scans of the tax credits computer system were used to produce the caseload figures in this publication, using a similar method to that used to produce the HMRC statistical publication "Child and Working Tax Credits Statistics: Finalised Annual Awards 2009-10".
- **The Family Resources Survey (FRS):** this is a household survey carried out by the Department for Work and Pensions, which collects a wide range of information relating to (amongst other things) family circumstances and income, which can be used to model families' entitlement to tax credits.
- **The British Household Panel Survey (BHPS):** this is a longitudinal survey of British households, carried out since 1991. As a panel study, it allows for comparisons of incomes in individual families across different years. Due to the cessation of the BHPS and its replacement by the Understanding Society panel over the period covered by this publication, this publication uses an extrapolation of the 2008-09 BHPS data – this issue is discussed further in the Technical Annex.

Definition of take-up rates

The **caseload take-up rate** represents the proportion of families who are entitled to a positive tax credit award who take up (ie. claim) their entitlement. It is estimated as:

$$\frac{C_A}{C_A + ((ENR_{FRS} \times DAF_{BHPS}) - BA_{FRS} - PRZ_A)}$$

Where:

- C_A** is the administrative caseload (the number of families who have made a claim and are entitled to a positive award);
- ENR_{FRS}** is the estimated number of entitled non-recipients (ENRs). These are people whose circumstances entitled them to tax credits according to the FRS, but who did not report receipt at the time of interview;
- DAF_{BHPS}** is an adjustment factor which scales the number of FRS ENRs so that they reflect the impact of the £25,000 disregard. The disregard adjustment factor is calculated using adjusted BHPS data;
- BA_A** is an adjustment for backdating using FRS data, since some ENRs who applied after the FRS interview date, or were waiting for an award for which they had already applied, would subsequently receive tax credits which covered that date;
- PRZ_A** is an adjustment for cases whose payments were reduced to zero, based on administrative data - these cases are in the tax credit system and entitled to a positive award, but receive no payments due to repayment of amounts which had previously been overpaid, and who therefore appear to be non-recipients on the FRS.

The expenditure take-up rate represents the proportion of total 2009-10 tax credit entitlements which have been claimed. It is calculated in precisely the same way as the caseload take-up rate, except that in each part of the calculation, total entitlement (defined as caseload multiplied by mean entitlement) replaces the relevant caseload terms.

Note that the expenditure figures presented in this publication should not be regarded as definitive estimates of spending on tax credits and are primarily used to construct expenditure take-up rates. They are based on modelled levels of entitlement, which may differ in some respects from actual expenditure. In particular, the existence of underpayments and overpayments may result in expenditure being incurred in a different financial year to the one implied by simple modelling of current entitlements.

Central estimates of the number of entitled non-recipients, amounts of tax credits unclaimed, and caseload and expenditure take-up rates are presented with lower and upper bounds; these approximately represent 95 per cent confidence intervals. The upper and lower bounds for the number of entitled non-recipients and the amounts unclaimed are symmetric around the central estimate, but the rates are not, since the impact on take-up rates of adding or subtracting given levels of ENRs or amounts unclaimed depends on the level of those rates.

Comparisons of Child and Working Tax Credit take-up rates over time

Table 1b of section B of the publication is a new table presenting the central estimates and upper and lower bounds of the take-up rates for Child and Working Tax Credit. This is to aid time series comparisons of the main figures.

Comparisons with previous systems of in-work support for families

Table 2 of section B shows comparisons over time between four systems of in-work support for low income families with children:

- Family Income Supplement (in operation between 1971 and 1988)
- Family Credit (FC, which existed between 1988 to 1999)
- Working Families' Tax Credit (WFTC, which existed between 1999 to 2003)
- Child and Working Tax Credits (in operation from 2003 onwards).

Comparing take-up rates between these different systems is not straightforward, due to changes in the systems themselves, as well as changes in the methodologies and data sources used. It is therefore recommended that the figures in table 2 are used only as broad indicators of levels and trends in take-up.

To mitigate some of the problems of comparability, take-up rates are estimated for that group of CTC and WTC claimants who are most similar to those analysed for the WFTC and FC publications. The out of work population are excluded, along with those without children and those entitled to the family element or less in CTC, as these three groups would not have been entitled under WFTC and FC. The self-employed and those in Northern Ireland are also excluded, as these cases were excluded in estimating historical WFTC and FC take-up rates. Even with these exclusions, it should be noted that each of the systems which have been introduced have, in general, been more generous at given income levels than their predecessors, and so it should be borne in mind that the size of the entitled population underlying the figures in table 2 has increased over time.

Glossary of terms used in tables

CTC – Child Tax Credit

WTC – Working Tax Credit

Caseload – the number of tax credit recipients entitled to a positive award

Expenditure – the total value of entitlements of tax credit recipients

Entitled non-recipients – families entitled to a positive tax credit award who have not claimed

Amount unclaimed – the total value of tax credit entitlements which have not been claimed by entitled non-recipients

Income used to calculate entitlement – the income figure used to calculate how much families are entitled to, after taking into account the £25,000 annual disregard for income rises

Modelled entitlement – the annual amount of tax credits families are entitled to, based on their reported circumstances

In-work families – families where at least one adult works 16 hours or more per week

Part A : Child Benefit

Table 1: Take-up of Child Benefit

	Caseload take-up rate (%)		
	Lower bound	Central estimate	Upper bound
2006-07	96	97	98
2007-08	96	97	97
2008-09	95	96	97
2009-10	95	96	97

Part B : Tax Credits

Section B1 : Summary Figures and Comparisons over Time

Table 1a: Take-up of CTC and WTC

	Caseload ('000)	Entitled non-recipients ('000)			Caseload take-up rate (%)		
		Lower bound	Central estimate	Upper bound	Lower bound	Central estimate	Upper bound
CTC	5,770	1,210	1,390	1,570	79	81	83
WTC	2,370	1,380	1,530	1,680	59	61	63

	Expenditure (£m)	Amount unclaimed (£m)			Expenditure take-up rate (%)		
		Lower bound	Central estimate	Upper bound	Lower bound	Central estimate	Upper bound
CTC	26,230	2,160	3,040	3,920	87	90	92
WTC	16,600	2,720	3,570	4,420	79	82	86

Notes:

1. The CTC and WTC figures in this table cannot be added together to give a total for both CTC and WTC, since some families with children receive both CTC and WTC.
2. The expenditure and amounts unclaimed relate to total tax credit expenditure for those entitled to CTC and WTC (i.e. the CTC figure includes WTC expenditure for those receiving both CTC and WTC, and similarly the WTC figure includes CTC expenditure for those receiving both CTC and WTC).

Table 1b: Take-up Rates of CTC and WTC, 2003-04 onwards

	Caseload take-up rate (%)			Expenditure take-up rate (%)		
	Lower bound	Central estimate	Upper bound	Lower bound	Central estimate	Upper bound
Child Tax Credit						
2003-04	78	79	81	85	87	89
2004-05	80	82	84	89	91	93
2005-06	80	82	84	89	91	93
2006-07*	79	81	83	85	88	90
2007-08	79	81	84	86	89	92
2008-09	78	80	83	87	90	93
2009-10	79	81	83	87	90	92
Working Tax Credit						
2003-04	54	56	58	75	78	81
2004-05	59	61	64	80	82	85
2005-06	59	61	63	79	82	85
2006-07*	55	57	59	74	77	80
2007-08	55	57	59	72	76	81
2008-09	56	58	60	76	80	84
2009-10	59	61	63	79	82	86

Notes:

- * Income disregard increased to £25,000. See discussion in Key Results section regarding the impact of this change.

Table 2: time series comparisons: take-up rates for low income working families with children

	Caseload take-up rate (%)			Expenditure take-up rate (%)		
	Lower bound	Central estimate	Upper bound	Lower bound	Central estimate	Upper bound
Family Income Supplement						
1974-75		50			*	
1978-79		51			58	
1981-82		48			53	
1983-84		54			65	
1985-86		48			54	
1986-87		51			60	
Family Credit						
1988-89**		57			67	
1990-91***		62			68	
1991-92 ⁺		66			73	
1993-94		71			81	
1994-95		69			82	
1995-96		70			83	
1996-97	71		75	82		88
1997-98 ⁺⁺	67		70	75		81
1998-99	66		70	73		79
Working Families' Tax Credit						
2000-01	62		65	73		78
2001-02	71		74	80		85
2002-03 ⁺⁺⁺	72		76	82		88
Child Tax Credit and Working Tax Credit – low income working families with children[§]						
2003-04	87	89	91	91	93	95
2004-05	87	90	93	93	95	98
2005-06	87	90	93	91	94	97
2006-07 ^{§§}	81	85	88	85	88	92
2007-08	78	84	91	84	89	95
2008-09	82	87	92	86	91	96
2009-10	81	85	90	86	90	96

Notes:

Figures should be used as a broad guide only due to methodological, data and policy changes over the various years; for more details see the Methodology section. Ranges were not published prior to 1996-97 and central estimates were not published between 1996-97 and 2002-03.

- * Expenditure take-up rate not available
- ** April 1988 to December 1989
- *** 1990 and 1991 calendar years
- + 1991 and 1992 calendar years
- ++ Revised estimates. Original estimates 71 to 76 per cent by caseload; 80 to 87 per cent by expenditure
- +++ April 2002 to November 2002
- § Defined as families with children in work who receive more than the family element of the Child Tax Credit, excluding the self-employed and those living in Northern Ireland
- §§ Income disregard increased to £25,000. See discussion in Key Results section regarding the impact of this change.

Sources for previous years:

- Family Income Supplement: Family Income Supplement Estimates of Take-up 1986-87 Technical Note, Department of Social Security Analytical Services Division, 1991
- Family Credit: Income-Related Benefits Estimates of Take-up, Department of Social Security, various years
- Working Families' Tax Credit: Working Families' Tax Credit Estimates of Take-up, Inland Revenue, various years

Section B2 : Families with Children

Table 3: Take-up by position on tax credits profile

	Caseload ('000)	Entitled non-recipients ('000)			Caseload take-up rate (%)		
		Lower bound	Central estimate	Upper bound	Lower bound	Central estimate	Upper bound
CTC out of work	1,480	10	100	190	89	94	99
CTC and WTC	1,890	130	220	320	86	89	94
CTC, more than family element	720	210	320	420	63	69	77
CTC, family element or less	1,670	640	770	900	65	68	72

	Expenditure (£m)	Amount unclaimed (£m)			Expenditure take-up rate (%)		
		Lower bound	Central estimate	Upper bound	Lower bound	Central estimate	Upper bound
CTC out of work	7,480	0	390	800	90	95	100
CTC and WTC	15,460	720	1,360	2,000	89	92	96
CTC, more than family element	2,340	530	880	1,230	66	73	82
CTC, family element or less	940	350	420	500	66	69	73

Notes:

CTC out of work cases includes those benefiting via Income Support/Jobseeker's Allowance. See Methodology section for more details.

Table 4: Take-up by income used to calculate entitlement

	Caseload ('000)	Entitled non-recipients ('000)			Caseload take-up rate (%)		
		Lower bound	Central estimate	Upper bound	Lower bound	Central estimate	Upper bound
£0-10,000	2,440	60	160	270	90	94	98
£10,000-£20,000	960	110	190	270	78	84	90
£20,000-£30,000	870	190	290	380	70	75	82
£30,000-£40,000	890	160	230	300	75	79	85
£40,000-£50,000	450	230	310	390	53	59	66
£50,000+	160	190	260	340	32	37	46

	Expenditure (£m)	Amount unclaimed (£m)			Expenditure take-up rate (%)		
		Lower bound	Central estimate	Upper bound	Lower bound	Central estimate	Upper bound
£0-10,000	16,880	190	820	1,450	92	95	99
£10,000-£20,000	6,050	480	910	1,330	82	87	93
£20,000-£30,000	2,160	340	620	890	71	78	86
£30,000-£40,000	780	180	250	330	70	75	81
£40,000-£50,000	300	190	260	330	48	54	62
£50,000 and over	60	60	100	140	29	36	49

Notes:

Both in-work and out-of work families.

Table 5: Take-up by level of modelled entitlement

	Caseload ('000)	Entitled non-recipients ('000)			Caseload take-up rate (%)		
		Lower bound	Central estimate	Upper bound	Lower bound	Central estimate	Upper bound
Under £500	130	160	230	310	30	36	45
£500 to £1,000	1,510	420	520	630	71	74	78
£1,000-£2,000	290	110	190	260	53	61	73
£2,000-£4,000	1,020	130	240	350	74	81	88
£4,000 and over	2,810	160	290	430	87	91	95

	Expenditure (£m)	Amount unclaimed (£m)			Expenditure take-up rate (%)		
		Lower bound	Central estimate	Upper bound	Lower bound	Central estimate	Upper bound
Under £500	30	40	60	80	28	35	45
£500 to £1,000	840	240	300	350	71	74	78
£1,000-£2,000	390	140	230	320	55	63	74
£2,000-£4,000	2,980	300	600	890	77	83	91
£4,000 and over	21,980	850	1,740	2,620	89	93	96

Notes:
Both in-work and out-of work families.

Table 6: take-up by family type

	Caseload ('000)	Entitled non-recipients ('000)			Caseload take-up rate (%)		
		Lower bound	Central estimate	Upper bound	Lower bound	Central estimate	Upper bound
Lone parents	2,290	60	140	210	92	94	97
Couples with children	3,480	1,070	1,250	1,430	71	74	76

	Expenditure (£m)	Amount unclaimed (£m)			Expenditure take-up rate (%)		
		Lower bound	Central estimate	Upper bound	Lower bound	Central estimate	Upper bound
Lone parents	13,690	60	370	670	95	97	100
Couples with children	12,540	1,710	2,510	3,310	79	83	88

Notes:
Both in-work and out-of work families.

Table 7: take-up by family size

	Caseload ('000)	Entitled non-recipients ('000)			Caseload take-up rate (%)		
		Lower bound	Central estimate	Upper bound	Lower bound	Central estimate	Upper bound
One child	2,670	640	790	940	74	77	81
Two children	2,130	340	450	560	79	82	86
Three or more children	970	80	150	210	82	87	93

	Expenditure (£m)	Amount unclaimed (£m)			Expenditure take-up rate (%)		
		Lower bound	Central estimate	Upper bound	Lower bound	Central estimate	Upper bound
One child	8,460	780	1,210	1,640	84	87	92
Two children	9,640	610	1,160	1,710	85	89	94
Three or more children	8,130	60	480	890	90	94	99

Notes:
Both in-work and out-of work families.

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Table 8: take-up by age of youngest child

	Caseload ('000)	Entitled non-recipients ('000)			Caseload take-up rate (%)		
		Lower bound	Central estimate	Upper bound	Lower bound	Central estimate	Upper bound
0-4	2,170	360	490	620	78	81	86
5-9	1,410	220	330	440	76	81	86
10-15	1,670	260	340	420	80	83	87
16 or over	520	160	240	320	62	68	76

	Expenditure (£m)	Amount unclaimed (£m)			Expenditure take-up rate (%)		
		Lower bound	Central estimate	Upper bound	Lower bound	Central estimate	Upper bound
0-4	11,560	560	1,160	1,770	87	91	95
5-9	6,700	270	680	1,090	86	91	96
10-15	6,330	420	740	1,070	86	89	94
16 or over	1,630	200	490	770	68	77	89

Notes:

Both in-work and out-of work families.

Table 9: take-up by country and region

	Caseload ('000)	Entitled non-recipients ('000)			Caseload take-up rate (%)		
		Lower bound	Central estimate	Upper bound	Lower bound	Central estimate	Upper bound
North East	260	40	100	160	62	72	88
North West	700	110	180	240	74	80	87
Yorks & the Humber	520	50	90	130	80	85	91
East Midlands	430	60	120	170	72	79	87
West Midlands	550	60	120	170	76	83	90
East	500	80	140	200	72	78	87
London	680	190	310	420	61	69	78
South East	670	140	210	290	70	76	82
South West	460	50	100	160	74	82	91
Wales	300	30	80	130	70	79	91
Scotland	470	70	120	170	73	80	87
Northern Ireland	180	20	60	100	65	76	92

	Expenditure (£m)	Amount unclaimed (£m)			Expenditure take-up rate (%)		
		Lower bound	Central estimate	Upper bound	Lower bound	Central estimate	Upper bound
North East	1,190	0	120	280	81	91	100
North West	3,330	0	400	810	80	89	100
Yorks & the Humber	2,460	0	180	410	86	93	100
East Midlands	1,910	0	200	420	82	90	100
West Midlands	2,630	0	300	600	81	90	100
East	2,080	0	210	430	83	91	100
London	3,530	0	610	1,330	73	85	100
South East	2,760	0	340	710	79	89	100
South West	1,940	0	130	310	86	94	100
Wales	1,360	0	110	220	86	92	100
Scotland	2,000	50	230	410	83	90	98
Northern Ireland	900	0	90	200	82	91	100

Notes:

Both in-work and out-of work families. Regions are defined according to Government Office Region boundaries.

Section B3 : Families without Children

Table 10: Overall take-up amongst families without children

	Caseload ('000)	Entitled non-recipients ('000)			Caseload take-up rate (%)		
		Lower bound	Central estimate	Upper bound	Lower bound	Central estimate	Upper bound
WTC only	480	1,200	1,300	1,400	26	27	29

	Expenditure (£m)	Amount unclaimed (£m)			Expenditure take-up rate (%)		
		Lower bound	Central estimate	Upper bound	Lower bound	Central estimate	Upper bound
WTC only	1,130	1,830	2,190	2,550	31	34	38

Table 11: Take-up by income used to calculate entitlement

	Caseload ('000)	Entitled non-recipients ('000)			Caseload take-up rate (%)		
		Lower bound	Central estimate	Upper bound	Lower bound	Central estimate	Upper bound
£0-£10,000	280	480	550	620	31	34	37
£10,000+	200	680	750	810	20	21	23

	Expenditure (£m)	Amount unclaimed (£m)			Expenditure take-up rate (%)		
		Lower bound	Central estimate	Upper bound	Lower bound	Central estimate	Upper bound
£0-£10,000	870	1,280	1,510	1,740	33	37	40
£10,000 and over	260	490	640	780	25	29	35

Table 12: Take-up by level of modelled entitlement

	Caseload ('000)	Entitled non-recipients ('000)			Caseload take-up rate (%)		
		Lower bound	Central estimate	Upper bound	Lower bound	Central estimate	Upper bound
Under £500	40	280	310	350	11	12	14
£500 to £1,000	50	150	200	240	18	21	26
£1,000-£2,000	100	240	300	360	22	25	30
£2,000 and over	280	450	510	560	33	36	39

	Expenditure (£m)	Amount unclaimed (£m)			Expenditure take-up rate (%)		
		Lower bound	Central estimate	Upper bound	Lower bound	Central estimate	Upper bound
Under £500	10	70	90	110	10	11	14
£500 to £1,000	40	110	140	170	19	23	27
£1,000-£2,000	150	360	440	530	22	25	30
£2,000 and over	930	1,380	1,540	1,690	35	38	40

Table 13: take-up by family type

	Caseload ('000)	Entitled non-recipients ('000)			Caseload take-up rate (%)		
		Lower bound	Central estimate	Upper bound	Lower bound	Central estimate	Upper bound
Singles without children	350	810	910	1,570	26	28	30
Couples without children	140	370	420	470	23	25	27

	Expenditure (£m)	Amount unclaimed (£m)			Expenditure take-up rate (%)		
		Lower bound	Central estimate	Upper bound	Lower bound	Central estimate	Upper bound
Singles without children	740	1,100	1,390	1,690	30	35	40
Couples without children	400	700	910	1,120	26	30	36

Technical Annex

Child Benefit

As set out in the methodology section, the Child Benefit take-up rate is defined as follows:

$$\frac{C_A}{C_A + (ENR_{FRS} - BD_A) + (ENR_{FRS\ 16-19} \times AF_{LFS})}$$

Where:

C_A	is the administrative caseload (the estimated number of children and young people for whom Child Benefit is in payment);
ENR_{FRS}	is the estimated number of children and young people aged 16-19 in full-time education or approved training who are eligible for a Child Benefit payment, but whose parents do not receive Child Benefit for that child, based on the FRS;
BD_A	is a deduction made for backdating, since some of those who appear to have an eligible child for whom they have not claimed will have made a claim which is backdated to cover the FRS interview date;
$ENR_{FRS\ 16-19}$	is the estimated number of ENR children and young people present within families containing a 16-19 year old, also based on the FRS;
AF_{LFS}	is an adjustment factor to the number of young people aged 16-19 in full-time education, based on the LFS.

This section describes how each of these elements of the calculation are constructed and used in creating the take-up rate estimates.

C_A : The administrative caseload

The administrative caseload is the estimated number of children for whom Child Benefit was payable in 2009-10. HMRC does not have a continuous series of quarterly Child Benefit data; following the well-publicised loss of Child Benefit data by HMRC in 2007, publication of Child Benefit statistics and the associated collection of data were suspended whilst data transfer procedures were reviewed. Regular delivery of quarterly data resumed in June 2009, and annual Child Benefit caseload data has been published for the periods affected by the suspension, August 2007 and August 2008.

Given the very regular seasonal pattern in the Child Benefit caseload observed prior to 2007, and in the reinstated quarterly data feed received, the observed relationship between the August caseload and the first quarter of the year is used in order to estimate caseload figures for the first quarter of 2009-10; this is then combined with actual data for the remainder of 2009-10. The estimates exclude foreign and unknown addresses so as far as possible reflect the number of children resident in the UK for whom Child Benefit is being claimed.

ENR_{FRS} : Estimated number of eligible children and young people for whom Child Benefit is not being received

The number of eligible children and young people for whom Child Benefit is not being received is estimated using the Family Resources Survey. Although it is not possible

to directly analyse which children in the family are or are not being claimed for using the FRS, it is possible to calculate the total number of children in the family for whom Child Benefit is claimed based on the amount of Child Benefit reported². By calculating, for each family, the difference between the total number of children and young people in that family and the estimated number of children and young people for whom Child Benefit is claimed, it is possible to derive an estimate of the number of eligible children and young people for whom Child Benefit is not received.

BD_A : the backdating adjustment

The estimated average number of ENRs calculated using the method above will be too high because Child Benefit claims can be backdated by up to three months. Some eligible children who may appear to have not been claimed for based on the FRS will have subsequently had a claim made for them which is backdated to cover the FRS interview date. These children should therefore not be counted as ENRs and doing so would incorrectly under-estimate the take-up rate.

The size of the backdating adjustment is estimated using Child Benefit administrative data, in a similar manner to the method described earlier for the total caseload. This estimate is then deducted from the estimated number of ENRs.

ENR_{FRS 16-19} : Estimated number of eligible children and young people for whom Child Benefit is not being received in families containing a 16-19 year old

A further problem with the FRS estimate described above is that the grossing regime used in the FRS grosses up the number of 16-19 year olds in full-time education to, amongst other things, the number of 16-19 year olds for whom Child Benefit is being claimed. As such, it does not include the (unknown) number of eligible 16-19 year olds for whom Child Benefit is not claimed³. This will tend to result in the unadjusted FRS estimate being too low, and the take-up rate correspondingly will be over-estimated. The number of ENRs is therefore scaled up to account for this problem.

Whilst it is unknown how many FRS ENRs are affected by this issue, it is possible to produce an upper bound estimate by scaling up the total number of ENRs within a family containing a 16-19 year old. This implicitly assumes that those for whom Child Benefit is not being claimed in a family containing 16-19 year olds are all aged 16-19; this will therefore tend to over-estimate the number of ENRs, and under-estimate the take-up rate.

² The values of Child Benefit reported in the FRS are not imputed and are, in the overwhelming majority of cases, multiples of the first and subsequent child rates payable in Child Benefit, so appear to be a reliable way of counting the number of children for whom Child Benefit is claimed. The FRS team in the Department of Work and Pensions have stated that whilst Child Benefit values may be edited eg. to reflect uprated benefit rates where out of date financial documentation has been consulted by the respondent, they are not edited to account for children for whom Child Benefit is apparently not being received.

³ It is not possible to directly estimate the ages of eligible children or young people who are not claimed for because, as noted earlier, the FRS methodology we have outlined does not permit the identification of which children are not being claimed for; only the total number within each family.

AF_{LFS}: the adjustment factor for 16-19 year olds⁴

The adjustment factor used to scale up the number of potential 16-19 year old ENRs is based on the Labour Force Survey. The Labour Force Survey is considered to give the best measure of participation in non-advanced education by 16-19 year olds; as it is not grossed up to Child Benefit families, it gives a higher estimate than the numbers participating based on the FRS.

The main drawback of the LFS (and this is a problem shared by all other household surveys, as well as administrative data on participants in education/training courses) is that it is not known when the course began. If a 19 year old began their course prior to their 19th birthday, then they are still eligible for Child Benefit; whereas if they began after their 19th birthday, they are not eligible.

As such, scaling up by the LFS will tend to over-estimate the total numbers of 16-19 year olds who are eligible for Child Benefit.

Derivation of upper and lower bounds and central estimate

The upper and lower bounds of the estimate of ENRs (and hence, the lower and upper bounds of the take-up rate) are based on a combination of:

- Sampling error: the number of ENRs (adjusted and unadjusted) are based on the FRS and LFS, and so there is sampling error associated with these estimates. Upper and lower bounds based on 95% confidence intervals are therefore derived around a central estimate.
- Uncertainty about the size of the adjustment: on the one hand, the unadjusted FRS estimate of ENRs (less backdating) is likely to be too low; on the other hand, the number of ENRs (less backdating) scaled up by the LFS adjustment factor is likely to be too high. This range, together with the range implied by the confidence intervals, is therefore included in the estimate of the upper and lower bounds.

Tax Credits

As described in the Methodology section, the caseload take-up rate is defined as:

$$\frac{C_A}{C_A + ((ENR_{FRS} \times DAF_{BHPS}) - BA_{FRS} - PRZ_A)}$$

Where:

C_A is the administrative caseload (the number of families who have made a claim and are entitled to a positive award);

ENR_{FRS} is the estimated number of those entitled to, but not receiving, tax credits based on the FRS;

⁴ Note that the 16-19 adjustment factor applied in this section is used after the deduction of the backdating adjustment. This is because backdated cases are almost always claims made for children under 1; whereas the adjustment factor concerns 16-19 year old young people. The backdating adjustment should therefore be made to the unadjusted FRS estimate, since the estimate of eligible children under 1 implied in the FRS requires no further adjustment.

- DAF_{BHPS}** is an adjustment factor which scales the number of FRS ENRs so that they reflect the impact of the £25,000 disregard. The disregard adjustment factor is calculated using adjusted BHPS data;
- BA_{FRS}** is an adjustment for backdating using FRS data, since some ENRs who applied after the FRS interview date, or were waiting for an award for which they had already applied, would subsequently receive tax credits which covered that date;
- PRZ_A** is an adjustment for cases whose payments were reduced to zero, based on administrative data - these cases are in the tax credit system and entitled to a positive award, but receive no payments due to repayment of amounts which had previously been overpaid, and are regarded as non-recipients on the FRS.

This section describes how each of these elements of the calculation are constructed and used in creating the take-up rate estimates.

C_A : The administrative caseload

The majority of the administrative data used in this publication are consistent with those used in the previously published “Child and Working Tax Credits Statistics: Finalised Annual Awards, 2009-10”⁵. These figures are based on all 2009-10 tax credit records, with each sub-period of tax credit entitlement weighted by the duration of these periods. More details about the data used are available in the Technical Note of that publication.

ENR_{FRS} : Estimates of entitled non-recipients (ENRs) from the Family Resources Survey

The FRS is considered to be the best survey data source available covering current income and other circumstances. It therefore forms the basis of the estimates of “entitled non-recipients”; families who were entitled to a tax credit in 2009-10, but did not receive one.

One of the main shortcomings with the FRS in modelling the system of tax credits is that tax credit entitlements are based on annual income, whereas FRS estimates are largely “snapshots” of circumstances at a particular point in time. A particular family in the FRS may therefore appear to be entitled to tax credits if their weekly income is annualised, but that week’s income may not be typical of the year as a whole. Earlier research⁶ has suggested that a number of families may have weekly incomes which vary considerably from an annual average.

In some ways, the FRS may be less prone to these problems of income variability than at first appears. Many sources of income in the FRS are not “weekly” as such, for various reasons: many individuals in families are paid monthly; some of the FRS questions ask about “usual” income, rather than income in a particular week or month; and some non-employee income sources are often recorded on an annual basis (for example self-employment income, and interest and investment income). In addition, the FRS is a survey which is carried out continuously through the whole

⁵ Available at <http://www.hmrc.gov.uk/stats/personal-tax-credits/cwtc-final-awards-may11.pdf>

⁶ Hills, J., Smithies, R. and McKnight, A., “Tracking Income: How Working Families’ Incomes Vary Through the Year” (2006)

year, and so long as income variations are not correlated (eg. there is no marked seasonality), random fluctuations in measured income at the individual level may be smoothed out when looking at figures derived for the year as a whole. As a result of these considerations, and because a truly “annual” large scale survey of incomes is not available, the results of the FRS are accepted to give the best available picture of 2009-10 incomes.

Aside from the question of annualisation, the FRS does have several well known, and some less well known, issues which are addressed in the modelling of entitlement. Income from self-employment is generally considered to be somewhat less reliable than other FRS income data. However, improvements have been made in recent years and self-employment income is now considered to be sufficiently reliable to be used in the Department for Work and Pensions Households Below Average Income publication. In addition, although families with income from self-employment were generally excluded from take-up estimates for Working Families’ Tax Credit, such an exclusion makes less sense in a tax credit system which is paid to those in and out of work. The self-employed are therefore included in all tables, apart from in table 2 where they are explicitly excluded in order to improve the comparability of time series figures.

Of the less well known issues, two in particular are highlighted. The first is that income brought to account in tax credits includes benefits in kind (for example, company cars), in line with the rules relating to income tax. FRS information on benefits in kind is limited, and so estimated values for income from benefits in kind has been imputed using administrative data.

The second issue is not related to income but disability. Entitlement to the disability element (and the 50 plus return to work element) is extremely difficult to model reliably on the FRS. Entitlement to the disability element is therefore modelled on a partial basis, based on current receipt of qualifying benefits, but no attempt is made to model past receipt (eg. of Incapacity Benefit), and entitlement to the 50 plus return to work element is not modelled at all. Exclusion of these elements will tend to result in the population of entitled non-recipients being underestimated, and the caseload take-up rate being overestimated.

DAF_{BHPS} The disregard adjustment (DA) – British Household Panel Survey (BHPS) data

Entitlement to tax credits does not rely, straightforwardly, on 2009-10 income, which is a necessary assumption for the FRS modelling. Following finalisation of 2008-09 awards, 2009-10 tax credit awards were based on 2008-09 incomes, but could be adjusted in-year to reflect applicants’ own estimates of 2009-10 incomes if they felt these were more accurate. Once the 2009-10 tax year had ended, recipients were able to report their final 2009-10 income at finalisation. However, a £25,000 disregard was in operation which meant that the first £25,000 of any increase in income between 2008-09 and 2009-10 was not taken into account in tax credit calculations.

This means that there are three different definitions of income used to determine tax credit entitlement, depending on the direction and size of the income change between 2008-09 and 2009-10:

- 2009-10 income is used if income has fallen between 2008-09 and 2009-10;
- 2008-09 income is used if income has not changed, or has risen by up to £25,000, between 2008-09 and 2009-10;

- 2009-10 income, less £25,000, is used if income has risen by more than £25,000 between 2008-09 and 2009-10.

Clearly, this definition of entitlement requires 2008-09 income data to be linked with 2009-10 data on income and other circumstances relevant for tax credit entitlement. To do this, longitudinal data from a panel study is required and in previous years data from the British Household Panel Study (BHPS) has been used to derive the following ratio:

$$\frac{\text{Entitled non-recipients based on actual income rules}}{\text{Entitled non-recipients based on current year income rules}}$$

In most cases, this ratio is greater than 1, since the effect of the disregard is to increase the entitled population.

However, it has not been possible to follow the approach of previous years for the current publication. The final wave of the BHPS ran in 2008-09, so there is no 2009-10 BHPS panel to link the 2008-09 data to. Whilst it has been replaced by the larger Understanding Society panel (USP) which began in January 2009, respondents from the BHPS panel were only incorporated into the USP from January 2010. This means that there were only three months worth of original BHPS respondents in the USP interviewed in the 2009-10 financial year to link to the 2008-09 data, which does not yield a sufficiently large sample size for the analysis.

Another option was to move entirely from the BHPS panel to the USP. Whilst this is the most likely solution for future years, because the USP only began in January 2009 this option only provides three months worth of USP data which fell into the 2008-09 financial year (from January to March 2009). Again, this does not yield a sufficiently large sample size for the current year.

For the current year, disregard adjustment factors have therefore been calculated for tax credit recipients using administrative data in both 2008-09 and 2009-10. Whilst these adjustment factors cannot be used directly because the impact of the income disregard tends to be considerably lower for recipients than for entitled non-recipients, it is assumed that the relationship between the adjustment factors for recipients and for entitled non-recipients remains broadly stable over time.

The relationship between the BHPS entitled non-recipient disregard adjustment factors in 2008-09, and the administrative data adjustment factors in 2008-09, has therefore been estimated and this relationship has been used to estimate what the BHPS adjustment factors might look like in 2009-10 based on the change in the administrative data adjustment factors between 2008-09 and 2009-10. This has been carried out for both adjustments to the number of entitled non-recipients, and the amounts of expenditure unclaimed.

BA_{FRS} : The backdating adjustment

The backdating adjustment is intended to account for the fact that tax credit awards can be backdated by up to three months. Any survey-based estimate of entitled non-recipients is likely to overstate the number of ENRs in a system with backdating, since some ENRs who applied after the FRS interview date, or were waiting for an award for which they had already applied, would subsequently receive tax credits which covered that date.

The number of backdated awards is estimated using the number of entitled non-recipients identified in the FRS as “waiting for the outcome of an application”.

PRZ_A : The adjustment for payments reduced to zero

The payments reduced to zero adjustment is intended to capture cases who have claimed tax credits but whose payments are currently reduced to zero. Such cases are unlikely to consider themselves to be tax credit recipients on the FRS, as the relevant FRS question is based on current receipt of tax credit payments. These cases may arise as a result of repaying either an in-year overpayment (ie. they were overpaid earlier in 2009-10) or a cross-year overpayment (ie. they were overpaid in 2008-09 and/or earlier years). Only cases entitled to the family element may have their payments reduced to zero in order to repay an overpayment.

There are also a smaller number of cases entitled to more than the family element but whose payments are also recorded as zero. These may include cases where payments have been suspended. Again, such cases will be unlikely to be recorded as receiving tax credits payments on the FRS.

To account for these discrepancies an estimate of the number of tax credit families with zero payments is made, based on administrative data on payments and entitlements, and this number is deducted from the estimate of entitled non-recipients.

Derivation of upper and lower bounds

Much of the data in this publication are based on samples, and as estimates derived from different samples are combined, this adds to the total level of uncertainty present in the estimates. In presenting the ranges, the two biggest sources of uncertainty are considered; the estimate of the number of ENRs derived from the FRS, and the estimate of the disregard adjustment factor derived from BHPS. As the administrative data estimates (including the adjustments for backdating and for payments reduced to zero) are derived either from 100% administrative data or from extremely large samples, any sampling uncertainty arising from this source is ignored.

The estimate of the number of entitled non-recipients derived from the FRS is subject to sampling uncertainty. Its variance is estimated by calculating the standard error of the estimated proportion of entitled families who were not in receipt of a tax credit, as derived wholly from the FRS, and this is multiplied by the estimated number of entitled families; the result is then squared.

The variance of the disregard adjustment factor derived from the BHPS is not estimated directly, but instead the variance of the numerator and denominator of the

adjustment factor are estimated separately; in other words, the variance of those entitled to and not receiving tax credits based on the current year's income, and the variance of those entitled to and not receiving tax credits based on actual income rules. The variance of the ratio of these two figures is then estimated using the formula⁷:

$$V(R) = \frac{(s_Y^2 + R^2 s_X^2)}{nX^2}$$

Where X is the estimated denominator of the ratio, Y is the estimated numerator of the ratio, R is the ratio, n is the sample size and s_X^2 and s_Y^2 are the sample variance of X and the sample variance of Y respectively. As BHPS data are unavailable for the latest year, it is assumed that the overall level of variance arising from the BHPS remains broadly the same as in the 2008-09 publication.

To combine the sample variance of the estimate of ENRs from the FRS, and the estimated sample variance of the disregard adjustment factor, the following formula is used⁸:

$$V(P) = s_Z^2 s_R^2 + Z s_R^2 + R s_Z^2$$

Where Z is the estimated number of ENRs, R is the disregard adjustment factor ratio, P is the product of Z and R, and s_Z^2 and s_R^2 are the respective sample variances.

V(P) is the final estimate of the variance of the number of entitled non-recipients, adjusted using the disregard adjustment factor. The square root of this figure is taken and multiplied by 1.96 to estimate approximate 95% confidence intervals for the estimate of ENRs, and the upper and lower bounds are used to derive a range for the take-up rates. Similar calculations are carried out on the expenditure figures, although the variance associated with mean entitlements generally leads to ranges which are somewhat wider than those for caseloads.

⁷ See, for example, Cochran, W. G. "Sampling Techniques", 3rd edition, p.155.

⁸ See for example Barnett H.A.R., "The Variance of the Product of Two Independent Variables and its Application to an Investigation Based on Sample Data", Journal of the Institute of Actuaries Vol 81 (1955), p. 190.