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

**Take-up rates**

**2008-09**

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*Child Benefit, Child Tax Credit and Working Tax Credit Take-up Rates 2008-09*

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 2008-09**

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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)<sup>1</sup>.

This publication presents estimates of annual take-up rates for Child Benefit and for CTC and WTC, covering the 2008-09 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:

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<sup>1</sup> 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 description of the methodology (with more technical aspects contained in an 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. This table contains figures for the three years from 2006-07, 2007-08 and 2008-09. The 2006-07 and 2007-08 estimates have been revised from those published in 2007-08. An explanation of the reasons for this change, and a comparison of the new and the old figures, is given in the Technical Annex.
- in part B, tax credit take-up rates are presented. Each 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 exception is table 2, where take-up rates alone are shown.

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. It also contains a discussion of the change to Child Benefit take-up methodology which has been made this year.

## **Key Results and comparisons with previous publications**

### **Child Benefit**

- **The central estimate of the Child Benefit take-up rate for 2008-09 is 96 per cent.**

The estimated Child Benefit take-up rate declined by 1 percentage point between 2007-08 and 2008-09. This change is just statistically significant (at the standard 95% confidence level). A factor underlying the fall is a rise in the eligible population in two age groups that have relatively low take up: children aged under 1 and young people aged 16-19. The number of children aged under 1 rose by almost 4% between 2007 and 2008; while the number of young people aged 16-19 in full-time education increased by 3% over the same period. Both these changes will have put downward pressure on the overall take-up rate.

The methodology for Child Benefit take-up estimates has been revised. Details of the changes are explained in the Technical Annex.

### **Tax credits**

- **The central estimate of the Child Tax Credit caseload take-up rate for 2008-09 is 80 per cent.**
- **The central estimate of the Working Tax Credit caseload take-up rate for 2008-09 is 58 per cent.**

The estimated Child Tax Credit (CTC) caseload take-up rate fell by 1 percentage point between 2007-08 and 2008-09. Whilst this change is not statistically significant, similar drivers as those described for Child Benefit are also likely to have exerted downward pressure on the CTC take-up rate. Moreover, it is worth noting that the take-up rate did not fall uniformly – it rose slightly for families on the lowest incomes and the highest awards, whilst falling for better off families and those on lower awards. In particular, falling take-up was concentrated amongst families entitled to the family element or less; this may have been caused by income falls related to the start of the recession, with families previously on incomes which were too high to receive tax credit payments seeing a drop in income which moved them into entitlement.

For Working Tax Credit, the central estimate of the caseload take-up rate rose by 1 percentage point in 2008-09, although this is not statistically significant. Central estimates of take-up of WTC rose for both families with children (from 88 to 89 per cent) and for WTC only households without children (from 21 to 23 per cent). These increases arose against a background of a very substantial rise in the size of the eligible population of 320 thousand, which is likely to reflect a combination of higher tax credit rates and thresholds, and falling incomes as the economy moved into recession.

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. In 2008-09, there was a significant

increase in the first income threshold (the point at which tax credits begin to be tapered) which had a similar, albeit smaller effect – this change increased the number of families with children entitled to more than the family element, and increased the number of households without children entitled to Working Tax Credit only.

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 were first estimated in the 2007-08 publication, covering 2006-07 and 2007-08. As well as presenting new figures for 2008-09, revisions to the methodology means that the current publication re-estimates take-up rates for 2006-07 and 2007-08 so that all figures are on a consistent basis, and the 2007-08 publication has also been revised to include the figures based on the new method. More details, including a comparison of take-up rates on the old and the new basis, are 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 tax credits.
- **The Labour Force Survey**: 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 for whom Child Benefit is in payment);
$ENR_{FRS}$	is the estimated number of children and young people 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 2008-09 depended on family circumstances in that year (for example, number of children, use of eligible childcare, disability) and incomes in 2007-08 and 2008-09. The first £25,000 of any increase in income between 2007-08 and 2008-09 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, we did not have sufficiently detailed information on the annual incomes or level of child allowances received, 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 we have been able to obtain 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 2008-09".
- **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, which we used to derive information on 2007-08 and 2008-09 incomes.

### **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, or claim, their entitlement. It is estimated as:

$C_A$

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

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 the BHPS

**$BA_A$**  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 overpayments, and who therefore appear to be non-recipients on the FRS.

The expenditure take-up rate represents the proportion of total 2008-09 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.

### **Time series comparisons with previous systems of in-work support for families**

Table 2 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. We therefore recommend 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, we estimate take-up for that group of CTC and WTC claimants who are most similar to those analysed for the WFTC and FC publications. We exclude the out of work population, 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. We also exclude the self-employed and those in Northern Ireland, as these cases were also excluded in estimating WFTC and FC take-up rates. Even with these exclusions, it should be noted that each of the systems which has 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

## **Part B : Tax Credits**

### **Section B1 : Summary Figures**

Table 1: 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	5,710	1,200	1,390	1,580	78	80	83
WTC	2,220	1,470	1,620	1,770	56	58	60

	Expenditure (£m)	Amount unclaimed (£m)			Expenditure take-up rate (%)		
		Lower bound	Central estimate	Upper bound	Lower bound	Central estimate	Upper bound
CTC	24,110	1,820	2,690	3,550	87	90	93
WTC	15,170	2,880	3,790	4,690	76	80	84

Notes:

1. The CTC and WTC figures in this table can not 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 (ie. the CTC figures 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).

## Section B2 : Families with Children

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
<b>Family Income Supplement</b>						
1974-75		50			*	
1978-79		51			58	
1981-82		48			53	
1983-84		54			65	
1985-86		48			54	
1986-87		51			60	
<b>Family Credit</b>						
1988-89**		57			67	
1990-91***		62			68	
1991-92 <sup>+</sup>		66			73	
1993-94		71			81	
1994-95		69			82	
1995-96		70			83	
1996-97	71		75	82		88
1997-98 <sup>++</sup>	67		70	75		81
1998-99	66		70	73		79
<b>Working Families' Tax Credit</b>						
2000-01	62		65	73		78
2001-02	71		74	80		85
2002-03 <sup>+++</sup>	72		76	82		88
<b>Child Tax Credit and Working Tax Credit – low income working families with children<sup>§</sup></b>						
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 <sup>§§</sup>	81	85	88	85	88	92
2007-08 <sup>§§</sup>	78	84	91	84	89	95
2008-09 <sup>§§</sup>	82	87	92	86	91	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

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	1,430	0	70	160	90	96	100
CTC and WTC	1,810	130	230	340	84	89	93
CTC, more than family element	690	170	260	340	67	73	80
CTC, family element or less	1,780	700	840	980	64	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	6,760	0	150	510	93	98	100
CTC and WTC	14,220	680	1,370	2,050	87	91	95
CTC, more than family element	2,120	420	700	990	68	75	84
CTC, family element or less	1,010	370	450	530	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	2,390	20	140	250	91	95	99
£10,000-£20,000	930	120	210	300	76	81	88
£20,000-£30,000	930	160	250	330	74	79	86
£30,000-£40,000	890	160	230	300	75	80	85
£40,000-£50,000	420	230	310	400	52	57	65
£50,000+	150	200	280	360	30	35	44

	Expenditure (£m)	Amount unclaimed (£m)			Expenditure take-up rate (%)		
		Lower bound	Central estimate	Upper bound	Lower bound	Central estimate	Upper bound
£0-10,000	15,720	50	710	1,370	92	96	100
£10,000-£20,000	5,430	560	1,050	1,550	78	84	91
£20,000-£30,000	1,910	250	470	680	74	80	88
£30,000-£40,000	710	110	160	210	77	82	87
£40,000-£50,000	280	150	210	270	50	57	65
£50,000 and over	50	60	100	140	28	36	48

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	250	330	27	34	43
£500 to £1,000	1,620	450	570	680	70	74	78
£1,000-£2,000	310	100	170	240	57	65	76
£2,000-£4,000	1,000	100	210	310	76	83	90
£4,000 and over	2,660	130	270	400	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	70	90	26	32	44
£500 to £1,000	900	260	320	380	71	74	78
£1,000-£2,000	420	120	210	290	59	67	77
£2,000-£4,000	2,810	300	570	840	77	83	90
£4,000 and over	19,950	720	1,590	2,450	89	93	97

**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	2,240	30	120	200	92	95	100
Couples with children	3,470	1,090	1,270	1,460	70	73	76

	Expenditure (£m)	Amount unclaimed (£m)			Expenditure take-up rate (%)		
		Lower bound	Central estimate	Upper bound	Lower bound	Central estimate	Upper bound
Lone parents	12,820	0	250	610	95	98	100
Couples with children	11,290	1,670	2,420	3,170	78	82	87

**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	2,610	610	760	910	74	78	81
Two children	2,130	360	480	600	78	82	86
Three or more children	970	80	160	240	80	86	92

	Expenditure (£m)	Amount unclaimed (£m)			Expenditure take-up rate (%)		
		Lower bound	Central estimate	Upper bound	Lower bound	Central estimate	Upper bound
One child	7,740	730	1,150	1,570	83	87	91
Two children	8,870	570	1,100	1,640	84	89	94
Three or more children	7,500	10	430	850	90	95	100

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

**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	2,140	360	500	640	77	81	86
5-9	1,440	170	270	370	79	84	89
10-15	1,670	310	400	500	77	81	85
16 or over	470	150	220	300	61	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	10,620	360	910	1,460	88	92	97
5-9	6,290	180	570	970	87	92	97
10-15	5,840	450	840	1,220	83	87	93
16 or over	1,370	150	390	620	69	78	90

**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	0	60	110	71	83	99
North West	700	80	150	220	76	82	90
Yorks & the Humber	520	40	70	110	82	87	93
East Midlands	430	60	110	160	73	80	88
West Midlands	550	60	130	200	73	80	89
East	490	70	140	200	71	78	87
London	660	100	200	300	69	76	86
South East	660	120	190	260	72	78	85
South West	460	60	130	210	69	77	89
Wales	300	20	80	140	68	78	93
Scotland	470	50	100	150	76	83	91
Northern Ireland	180	10	50	100	64	77	96

	Expenditure (£m)	Amount unclaimed (£m)			Expenditure take-up rate (%)		
		Lower bound	Central estimate	Upper bound	Lower bound	Central estimate	Upper bound
North East	1,100	0	90	220	83	92	100
North West	3,070	10	380	750	80	89	100
Yorks & the Humber	2,260	0	160	370	86	94	100
East Midlands	1,750	0	160	340	84	91	100
West Midlands	2,400	40	460	880	73	84	99
East	1,880	0	210	420	82	90	100
London	3,200	0	480	1,030	76	87	100
South East	2,510	0	340	710	78	88	100
South West	1,770	0	250	560	76	88	100
Wales	1,250	20	150	290	81	89	99
Scotland	1,860	60	240	430	81	88	97
Northern Ireland	820	0	100	210	80	89	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	410	1,290	1,390	1,480	21	23	24

	Expenditure (£m)	Amount unclaimed (£m)			Expenditure take-up rate (%)		
		Lower bound	Central estimate	Upper bound	Lower bound	Central estimate	Upper bound
WTC only	950	2,040	2,430	2,810	25	28	32

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	250	640	720	800	24	26	28
£10,000+	150	630	690	750	17	18	20

	Expenditure (£m)	Amount unclaimed (£m)			Expenditure take-up rate (%)		
		Lower bound	Central estimate	Upper bound	Lower bound	Central estimate	Upper bound
£0-£10,000	750	1,640	1,920	2,190	25	28	31
£10,000 and over	210	420	540	660	24	28	33

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	230	260	290	11	12	13
£500 to £1,000	50	220	280	340	12	14	17
£1,000-£2,000	80	240	290	340	20	23	26
£2,000 and over	240	520	580	630	27	29	32

	Expenditure (£m)	Amount unclaimed (£m)			Expenditure take-up rate (%)		
		Lower bound	Central estimate	Upper bound	Lower bound	Central estimate	Upper bound
Under £500	10	60	70	90	9	11	13
£500 to £1,000	30	160	200	250	12	14	18
£1,000-£2,000	130	350	430	510	20	23	26
£2,000 and over	780	1,560	1,730	1,890	29	31	33

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	290	790	870	1,580	23	25	27
Couples without children	120	450	500	560	17	19	20

	Expenditure (£m)	Amount unclaimed (£m)			Expenditure take-up rate (%)		
		Lower bound	Central estimate	Upper bound	Lower bound	Central estimate	Upper bound
Singles without children	620	1,130	1,420	1,710	27	31	36
Couples without children	330	840	1,070	1,310	20	24	28

## **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 for whom Child Benefit is in payment);
$ENR_{FRS}$	is the estimated number of children and young people 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 2006-07, 2007-08 and 2008-09. HMRC does not have a continuous series of 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 re-instated quarterly data feed received, we use the observed relationship between the August caseload and the other quarters of the year in order to estimate caseload figures for the whole financial year. 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 reported<sup>2</sup>. 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<sub>A</sub> : 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<sub>FRS 16-19</sub> : 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 claimed<sup>3</sup>. This will tend to result in the unadjusted FRS estimate being too low, and the take-up rate correspondingly will be over-estimated. We therefore scale up the number of ENRs to account for this problem.

Whilst we cannot know how many FRS ENRs are affected by this issue, we can 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.

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<sup>2</sup> 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.

<sup>3</sup> 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<sub>LFS</sub>: the adjustment factor for 16-19 year olds<sup>4</sup>**

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 19<sup>th</sup> birthday, then they are still eligible for Child Benefit; whereas if they began after their 19<sup>th</sup> 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. We estimate upper and lower bounds based on 95% confidence intervals 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. We therefore include this range, together with the range implied by the confidence intervals, in our estimate of the upper and lower bounds.

#### **Changes to the methodology since the original 2007-08 publication**

In the preparatory work for the 2008-09 publication, it became apparent that the original methodology we had been using for estimating Child Benefit take-up rates was no longer fit for purpose. In the earlier methodology, instead of calculating the number of eligible non-recipients, the Child Benefit caseload was divided directly by an estimate of the eligible population, which for children aged 0-15, was the total UK population. However, in 2009 the number of UK children aged 0-15 on the Child Benefit administrative data was higher than the number of UK children aged 0-15 in the UK population estimates. Whilst there are plausible reasons why this might occur (particularly around whether the definitions of the resident population used by the Office for National Statistics corresponds closely enough with the eligibility criteria for Child Benefit), it does indicate that the methodology used previously is no longer satisfactory.

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<sup>4</sup> 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.

The revised approach divides the caseload by the caseload plus the estimated number of eligible non-recipients to calculate take-up, in place of dividing the caseload by the eligible population. This alternative is a widely used and accepted approach to calculating take-up rates: it is also used for the tax credits take-up rates and by the Department for Work and Pensions in their estimates of income-related benefit take-up rates. The new methodology ensures that the estimate of the eligible population will always be greater than, or equal to the caseload. It also has the advantage that it should allow the calculation of take-up rates after January 2013 when the withdrawal of Child Benefit from families containing a higher rate taxpayer (as announced as part of the 2010 Spending Review) comes into effect. The previous methodology could not have done this.

The new method gives very similar estimates to the previously published statistics. The table below shows the previously published estimates alongside those produced using the new method.

**Table A1: Estimates of Child Benefit take-up rates, based on old and new methods**

	Old method			New method		
	Lower bound	Central estimate	Upper bound	Lower bound	Central estimate	Upper bound
2006-07	95	96	97	96	97	98
2007-08	95	97	98	96	97	97

### **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<sub>A</sub>** is the administrative caseload (the number of families who have made a claim and are entitled to a positive award)
- ENR<sub>FRS</sub>** is the estimated number of those entitled to, but not receiving, tax credits based on the FRS
- DAF<sub>BHPS</sub>** 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 the BHPS
- BA<sub>FRS</sub>** 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<sub>A</sub>** 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 overpayments, 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<sub>A</sub> : 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, 2008-09”<sup>5</sup>. These figures are based on all 2008-09 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<sub>FRS</sub> : Estimates of entitled non-recipients (ENRs) from the Family Resources Survey**

The FRS is considered to be the best survey data source we have available covering current income and other circumstances. It therefore forms the basis of our estimates of “entitled non-recipients”; families who were entitled to a tax credit in 2008-09, 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 we annualise their weekly income, but that week’s income may not be typical of the year as a whole. Earlier research<sup>6</sup> 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 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 we lack a truly “annual” large scale survey of incomes, we accept the results of the FRS as giving the best available picture of 2008-09 incomes.

Aside from the question of annualisation, the FRS does have several well known, and some less well known, issues which we have attempted to address in our modelling. 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’

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<sup>5</sup> Available at <http://www.hmrc.gov.uk/stats/personal-tax-credits/cwtc-final-awards-may10.pdf>

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

Tax Credit, such an exclusion makes less sense in a tax credit system which is paid to those in and out of work. We therefore include the self-employed in all tables, apart from in table 2 where we explicitly exclude them in order to improve the comparability of time series figures.

Of the less well known issues, we highlight two in particular. The first is that income brought to account in tax credits now 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 we have attempted to impute income from benefits in kind 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. We have therefore modelled entitlement to the disability element on a partial basis, based on current receipt of qualifying benefits, but make no attempt to model past receipt (eg. of Incapacity Benefit), and we do not attempt to model the 50 plus return to work element 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<sub>BHPS</sub>      The disregard adjustment (DA) – British Household Panel Survey (BHPS) data**

Entitlement to tax credits does not rely, straightforwardly, on 2008-09 income, which is a necessary assumption for the FRS modelling. Following finalisation of 2007-08 awards, 2008-09 tax credit awards were based on 2007-08 incomes, but could be adjusted in-year to reflect applicants' own estimates of 2008-09 incomes if they felt these were more accurate. Once the 2008-09 tax year had ended, recipients were able to report their final 2008-09 income at finalisation. However, a £25,000 disregard was in operation which meant that the first £25,000 of any increase in income between 2007-08 and 2008-09 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 2007-08 and 2008-09:

- 2008-09 income is used if income has fallen between 2007-08 and 2008-09;
- 2007-08 income is used if income has not changed, or has risen by up to £25,000, between 2007-08 and 2008-09;
- 2008-09 income, less £25,000, is used if income has risen by more than £25,000 between 2007-08 and 2008-09.

Clearly, this definition of entitlement requires 2007-08 income data to be linked with 2008-09 data on income and other circumstances relevant for tax credit entitlement. To do this, we need longitudinal data from a panel study, such as the BHPS or DWP's Families and Children Study (FACS). Because we require information on families without children, we have used BHPS data in this publication.

The BHPS data is used to produce a caseload adjustment factor to scale the number of entitled non-recipients that we derive from the FRS. The adjustment factor is defined as the following ratio:

Entitled non-recipients based on actual (2007-08 and 2008-09) income rules

Entitled non-recipients based on 2008-09 income rules

In most cases, this ratio is greater than 1, since the effect of the disregard is to increase the entitled population. As an example, a family whose 2008-09 income is such that they are just above the income necessary to receive a tax credit award, would be entitled if their 2007-08 income was within the range necessary to receive an award, and their income had risen by £25,000 or less between 2007-08 and 2008-09.

**BA<sub>FRS</sub> : 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.

In previous years, the number of backdated awards was estimated using administrative data. For this publication, the number of entitled non-recipients identified in the FRS as “waiting for the outcome of an application” was used instead.

**PRZ<sub>A</sub> : 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 2008-09) or a cross-year overpayment (ie. they were overpaid in 2007-08 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 we therefore make an estimate of the number of tax credit families with zero payments, based on administrative data on payments and entitlements, and deduct this number from our estimate of entitled non-recipients.

**Derivation of upper and lower bounds**

Much of the data we make use of in this publication are based on samples, and as we are combining estimates derived from different samples, this adds to the total level of uncertainty present in our estimates. In presenting our ranges, we focus on the two biggest sources of uncertainty; 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, we ignore any sampling uncertainty arising from this source.

The estimate of the number of entitled non-recipients derived from the FRS is subject to sampling uncertainty. We estimate its variance 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 FRS, multiplying this by the estimated number of entitled families, and squaring the result.

We do not estimate the variance of the disregard adjustment factor derived from the BHPS directly, but instead separately estimate the variance of the numerator and denominator of the adjustment factor; in other words, the variance of those entitled to and not receiving tax credits based on 2006-07 income rules, and the variance of those entitled to and not receiving tax credits based on actual income rules. We then estimate the variance of the ratio of these two figures using the formula<sup>7</sup>:

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

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.

To combine the sample variance of the estimate of ENRs from the FRS, and the estimated sample variance of the disregard adjustment factor, we use the following formula<sup>8</sup>:

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

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

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

<sup>8</sup> 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.