

Income Related Benefits Estimates of Take-Up in 2002/2004 Northern Ireland



The 2002-04 Estimates of Take-Up for Income Related Benefits report is primarily an Internet publication that can be accessed through our homepage on:

http://www.dsdni.gov.uk/index/stats_and_research.htm

This is a paper version of the Internet version and contains all the explanatory text and tables.

Income Related Benefits Estimates of Take-Up in 2002/2004 Northern Ireland



Table of Contents

Introduction	3
Summary of Key Results for 2002/2004	11
Chapter 1: Income Support and Minimum Income Guarantee/Pension Credit	13
Chapter 2: Housing Benefit	23
Chapter 3: Jobseeker's Allowance	31
Chapter 4: Methods and Data Sources	39
Appendix: Construction of take-up ranges	45

Introduction

Background

This publication contains information on the take-up of the main income-related benefits in Northern Ireland in financial years 2002/2003 and 2003/2004: Income Support, Minimum Income Guarantee/Pension Credit, Housing Benefit and Jobseeker's Allowance (Income-Based). This is the first edition of the publication and covers data from both the 2002/2003 and 2003/2004 Family Resources Surveys.

Take-up is measured in two ways: by expenditure and by caseload. Caseload take-up compares the number of benefit recipients - averaged over the year - with the number who would be receiving if everyone took up their entitlement for the full period of their entitlement. Expenditure take-up compares the total amount of benefit received, in the course of a year, with the total amount that would be received if everyone took up their entitlement for the full period of their entitlement.

Take-up estimates are presented as ranges within which it can be assumed true take-up lies. These 'ranges of true take-up' account for possible biases inherent in estimates from data that is less than perfect. These ranges also account for the effects of sampling variation (otherwise known as sampling error).

Where sample sizes and data sources allow, take-up statistics have been broken down to enable comparisons by gender. In practice, analysis by gender is possible only for Income Support, Minimum Income Guarantee/Pension Credit and Jobseeker's Allowance (Income-Based).

Care should be taken when interpreting take-up statistics. In particular, an upper limit of, say, 90% to the caseload take-up range does not necessarily mean that at least 10% never take up their entitlement. This is because some of the shortfall in take-up may represent a delay in claiming benefit that is eventually received. Further information is presented on the characteristics of those non-recipients of the benefits who are apparently entitled; and some of the reasons for non-take-up are explored. These results help to explain some aspects of the figures.

Contact Points

If you would like further information on the NI Benefit Take-up report, please contact:

Statistics and Research Branch
Department for Social Development
Level 4, James House
Gasworks Business Park
Ormeau Road
Belfast
BT7 2JA
Email: srb@dndni.gov.uk

Any comments on the presentation and content of this and future reports should also be sent to this address.

Online Access

This report is also available on the internet free of charge:

http://www.dndni.gov.uk/index/stats_and_research.htm

Structure of the report

This publication is divided into three main chapters and a technical appendix. Chapters 1 - 3 provide the full results covering the income-related benefits. Each chapter begins with a brief description of the benefit, a guide to the tables presented and any particularly important technical considerations where appropriate. The tabulated results plus commentary are followed by an analysis of the characteristics of those entitled to but not receiving benefits. Chapter 4 provides an overview of the methodology and the data sources used. The Appendix describes in more detail how ranges of true take-up have been calculated in this publication.

Estimates of take-up cover only people in private households, since the Family Resources Survey (FRS) surveys only people in private households. In practice this means these take-up estimates omit people living in Residential Care or Nursing Homes and some other, mostly small, groups. In addition, because the FRS does not contain sufficient information on the incomes of the self-employed to allow reliable assessment of benefit entitlement, the estimates also exclude the full-time self-employed.

A quick guide to the published tables

There are two basic types of table presented in this publication - one that contains statistics related to the caseload measure of take-up and a second that contains statistics related to the expenditure measure. The following illustrations are intended as a guide to interpreting the tables, and it should be noted that these examples have been taken from the 'Income Related Benefits Estimates of Take-Up in 2002/2003' publication for Great Britain from DWP and the figures contained within are **not applicable to Northern Ireland** in any way.

Illustration 1: Understanding tables presenting caseload take-up statistics (Illustrative GB data)

Caseload Take-up							
	Year	Pensioners	Non Pensioner groups			Others	All
			All Non Pensioners	Couples with Children	Lone Parents		
							(Thousands)
Number of Recipients	2001/2002	1,640	2,180	250	870	1,060	3,830
	2002/2003	1,620	2,170	240	870	1,070	3,790
Range of Entitled Non-Recipients	2001/2002	180 : 340	190 : 350	30 : 60	0 : 40	160 : 270	390 : 680
	2002/2003	180 : 310	230 : 400	30 : 60	10 : 60	190 : 300	420 : 700
							(Percentages)
Take-Up Ranges	2001/2002	83 : 90	86 : 92	80 : 90	96 : 100	80 : 87	85 : 91
	2002/2003	84 : 90	84 : 90	79 : 90	93 : 99	78 : 85	84 : 90

Shows the number of recipients of the benefit (in private households) based on DSD administrative sources.

Refer across columns to compare statistics for different family groupings.

Example: An average of one million and sixty thousand benefit units in the family group 'others' were receiving Housing Benefit in 2001/2002.

Shows estimated take-up percentages.

Shows the number of people estimated to be not claiming benefit they are entitled to based on Family Resources Survey data.

Example: In 2002/2003 between 30,000 and 60,000 'couples with children' were not claiming the Housing Benefit to which they were entitled. This is equivalent to take-up of between 79% and 90%.

Illustration 2: Understanding tables presenting expenditure take-up statistics (Illustrative GB data)

Averages are used to present a picture of what the 'typical' amount is. Mean (average) amounts unclaimed alone may present a distorted picture of the 'typical' amount where they are pulled up by small numbers of very large values. Presenting the median alongside the mean in this way helps present a more balanced picture of the 'typical' amount unclaimed. These values are based on Family Resources Survey data.

Shows the average weekly amount of benefit actually received (by those in private households) based on DSD administrative records.

These three groups together represent Non-pensioners.

	Year	Non Pensioner groups					All
		Pensioners	All Non Pensioners	Couples with Children	Lone Parents	Others	
(Pounds)							
Average Weekly Amounts Claimed	2001/2002	45.4	51.9	52.5	55.6	48.7	49.2
	2002/2003	47.9	55.5	55.9	59.2	52.5	52.4
Average Weekly Amounts Unclaimed	2001/2002	27.9	37.3	37.3	44.2	35.9	33.3
	2002/2003	31.8	39.3	37.9	38.2	39.9	36.5
Median Weekly Amounts Unclaimed	2001/2002	25.6	35.3	31.5	42.9	34.5	31.3
	2002/2003	30.8	35.2	25.7	32.4	36.4	34.6
(Millions of Pounds)							
Total amount Claimed	2001/2002	3,870	5,900	680	2,520	2,700	9,790
	2002/2003	4,030	6,280	690	2,680	2,920	10,320
Total Range Unclaimed	2001/2002	230 : 530	350 : 730	40 : 140	0 : 110	270 : 540	630 : 1,230
	2002/2003	270 : 550	440 : 890	40 : 150	20 : 150	350 : 670	760 : 1,400
(Percentages)							
Take-Up Ranges	2001/2002	88 : 94	89 : 94	82 : 94	96 : 100	83 : 91	89 : 94
	2002/2003	88 : 94	88 : 93	83 : 94	95 : 99	81 : 89	88 : 93

Shows the total amount of benefit estimated to have been left unclaimed, based on Family Resources Survey data.

Shows the total amount of benefit actually received (by those in private households) over the course of the year based on DSD administrative records.

Shows estimated take-up percentages.

Glossary of Terms

Average

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

Benefit Unit

This is a single adult or couple, together with any dependent children (as defined under “Child”). An adult living in the same household as his or her parents, for example, is a separate benefit unit from the parents and would be assessed separately for Income Support/Minimum Income Guarantee/Pension Credit or Jobseeker’s Allowance.

Confidence Interval

A measure of **sampling error**. A 95% confidence interval for an estimate is the range that will – if sampling error is the only source of error – contain the ‘true’ figure on average 95 times out of 100. Note that in practice there are also other sources of error in the survey and analysis processes.

Couple

A man and woman living together as husband and wife, including cohabiters.

Child

An individual under the age of 16 or an unmarried 16 – 18 year old on a course up to and including ‘A’ level standard.

Entitled

A benefit unit is said to be entitled to receive a benefit if they satisfy the conditions set down in order to qualify to receive the benefit.

Entitled Non-Recipient (ENR)

A benefit unit that is entitled to a benefit but is not receiving it.

Entitlement

Entitlement is the amount of money an entitled benefit unit should receive in benefit.

Grossing Up

The sample of FRS respondents are grossed up to represent the whole household population. Different grossing factors are applied to different types of households in order to correct for over- and under- representation of these household types.

Median

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

Modelled as Entitled/modelling entitlement

An assessment of entitlement to each of the income-related benefits is made for each benefit unit on the Family Resources Survey. On the basis of this assessment, benefit units are then classified as Entitled Non-Recipients, Entitled Recipients, Non-Entitled Non-Recipients, or Non-Entitled Recipients. Those benefit units classified as Entitled Non-Recipients and Entitled recipients have been “modelled as entitled”.

Over-modelled

Modelled entitlement for a benefit unit is greater than the amount of benefit they report receiving in response to the Family Resources Survey.

Pensioner

Pensioners are either single people aged at least 60 or, if a couple, both will be termed pensioners if one is aged at least 60 years old. This definition ties in with qualification conditions for the pensioner premium in the various benefits.

Private renter

The private renter’s category used here includes people renting accommodation from Registered Social Landlords.

Recipient

A benefit unit that is in receipt of a benefit.

Response Rate

This is the proportion of households approached by FRS interviewers who agree to take part in the survey. Response rates may vary between different household types.

Sampling Error

The uncertainty in the estimate arising from taking a **random sample** of the population which may not reflect the characteristics of the whole population. The likely size of this error can be identified and expressed as a confidence interval.

Under-modelled

Modelled entitlement for a benefit unit is less than the amount of benefit they report receiving in response to the Family Resources Survey.

Symbols and Abbreviations

BU	Benefit unit	..	Not available
ENR	Entitled Non-Recipient	.	Not applicable/Not possible
ER	Entitled Recipient	-	Nil or negligible
HB	Housing Benefit	2002/2004	Financial Years
IS	Income Support	FRS	Family Resources Survey
JSA	Jobseeker's Allowance	NIHE	Northern Ireland Housing Executive
MIG	Minimum Income Guarantee	<	Less than
PC	Pension Credit		
SAR	Second Adult Rebate		
DSD	Department for Social Development		
SSA	Social Security Agency		

Conventions Used in the Tables

1. Average amounts are rounded to the nearest 10 pence.
2. Amounts claimed and unclaimed are rounded to the nearest £1 million.
3. Caseload figures are rounded to the nearest 1,000.
4. Take-up percentages are rounded to the nearest percentage point.
5. Totals may not equal the sum of their parts due to rounding.
6. Full-time self-employed cases are excluded from all results for all benefits.
7. Those not living in private households are excluded from all results for all benefits.

Summary of Key Results for 2002/2004

Income Support (for non-pensioners)

Take-up between 80% and 97% by caseload

Take-up between 84% and 98% by expenditure

Minimum Income Guarantee/Pension Credit

Take-up between 42% and 58% by caseload

Take-up between 47% and 67% by expenditure

Housing Benefit

Take-up between 88% and 97% by caseload

Take-up between 89% and 98% by expenditure

Jobseeker's Allowance (Income-Based)

Take-up between 53% and 85% by caseload

Take-up between 55% and 89% by expenditure

Chapter 1

Income Support, Minimum Income Guarantee and Pension Credit

Income Support (IS) is paid to those on low incomes who are not in full-time work. It is not paid to single people working 16 hours or more per week, or to couples if the claimant works 16 hours or more per week, or the claimant's partner works 24 or more hours per week. In 2002/2003 and 2003/2004 it was also not paid to those with capital holdings of £8,000 or more for those aged under 60 and £12,000 for those aged 60 or over. The capital limit for those in Residential Care or Nursing Homes was higher, at £16,000, though these cases are excluded as they are not included in the FRS.

In April 1999 Minimum Income Guarantee (MIG) was introduced for pensioners paid through Income Support. In October 2003 MIG was replaced by Pension Credit which further increased the eligible population due to the changes in rules.

Claimants over 60 are now eligible to claim Pension Credit only and therefore the IS cases are for those aged between 16 and 59 for both men and women. For the purpose of this analysis we have assumed that anyone who would have eligible for either MIG or Jobseeker's Allowance (JSA) would have claimed MIG/IS rather than JSA.

Guide to tables

Estimates of caseload and expenditure take-up are presented for Income Support for non-pensioners with children and non-pensioners without children in Tables 1.1 and 1.2 respectively. Due to the small number of cases involved it has not been possible to analyse the results further, in terms of couples or singles, as is the case in GB. Estimates for Minimum Income Guarantee/Pension Credit for both caseload and expenditure are shown in Tables 1.3 and 1.4 by pensioner family type. Take-up statistics are presented as ranges, rather than individual figures, and these reflect the maximum upward and downward effects that could reasonably occur. Each range includes a 95% confidence interval to reflect sampling error, meaning that 95% of the time the true value will fall within the quoted range.

As a further result of the small sample sizes for Northern Ireland all the results reported for Income Support/Minimum Income Guarantee/Pension Credit were obtained by combining two years data. Therefore statistics for 2002/2004 are based on both the 2002/2003 and 2003/2004 samples.

For Income Support by different non-pensioner groups the results need to be treated with caution, as even though we have combined two years data the sample sizes are still low.

Readers should note that component parts do not always sum to totals in the table as confidence intervals have been calculated separately for components and totals.

Results

Table 1.1: Caseload Take-up of Income Support

	Year	Non-Pensioners with Children	Non-Pensioners without Children	All Non-Pensioners
				(Thousands)
Number of Recipients	2002/2004	47	53	100
Range of Entitled Non-Recipients	2002/2004	1 : 5	2 : 22	3 : 26
				(Percentages)
Take-Up Ranges	2002/2004	91 : 98	71 : 96	80 : 97

Table 1.2: Expenditure Take-up of Income Support

	Year	Non-Pensioners with Children	Non-Pensioners without Children	All Non-Pensioners
				(Pounds)
Average Weekly Amounts Claimed	2002/2004	121.9	61.4	89.8
Average Weekly Amounts Unclaimed	2002/2004	78.9	49.6	56.7
Median Weekly Amounts Unclaimed	2002/2004	59.8	54.0	54.0
				(Millions of Pounds)
Total amount Claimed (Annual)	2002/2004	297	170	467
Total Range Unclaimed (Annual)	2002/2004	3 : 24	5 : 68	8 : 89
				(Percentages)
Take-Up Ranges	2002/2004	92 : 99	71 : 97	84 : 98

Take-up of Income Support appears lower for non-pensioners without children than for non-pensioners with children, by both caseload and expenditure measures. However we cannot say that is definitely the case as there are overlaps in the ranges for both caseload and expenditure cases for these two groups.

Table 1.3: Caseload Take-up of Minimum Income Guarantee / Pension Credit

	Year	Pensioner Couples	Single Male Pensioners	Single Female Pensioners	All Pensioners
					(Thousands)
Number of Recipients	2002/2004	14	14	41	70
Range of Entitled Non-Recipients	2002/2004	17 : 24	7 : 20	24 : 56	50 : 96
					(Percentages)
Take-Up Ranges	2002/2004	37 : 46	41 : 67	42 : 63	42 : 58

Table 1.4: Expenditure Take-up of Minimum Income Guarantee / Pension Credit

	Year	Pensioner Couples	Single Male Pensioners	Single Female Pensioners	All Pensioners
					(Pounds)
Average Weekly Amounts Claimed	2002/2004	68.7	56.9	47.8	53.9
Average Weekly Amounts Unclaimed	2002/2004	49.6	34.0	35.6	40.4
Median Weekly Amounts Unclaimed	2002/2004	31.5	23.4	23.2	24.6
					(Millions of Pounds)
Total amount Claimed (Annual)	2002/2004	50	42	103	195
Total Range Unclaimed (Annual)	2002/2004	35 : 74	9 : 43	39 : 116	95 : 221
					(Percentages)
Take-Up Ranges	2002/2004	40 : 59	49 : 82	47 : 72	47 : 67

The take-up of Minimum Income Guarantee/Pension Credit is considerably lower than the take-up of Income Support for non-pensioners as a whole.

The results appear to indicate that the take-up for pensioner couples is also lower than that for either single male pensioners or single female pensioners, though again there is an overlap in the results so we can not state this categorically.

The change from MIG to Pension Credit in October 2003 may be a contributing factor to the low levels of take-up as it obviously took time for all newly eligible claimants to apply for the new benefit. This theory will be supported if the 2003/2005 results indicate a significant increase in the take-up rates, though it will be several months before they are available for analysis.

We now provide supplementary analysis for both the entitled non-recipients and those classed as entitled recipients to attempt to discover any significant characteristic differences.

Amounts unclaimed

Figure 1.1: Percentage of Pensioner Entitled Non-Recipients and Entitled Recipients by band of entitlement to Minimum Income Guarantee/ Pension Credit

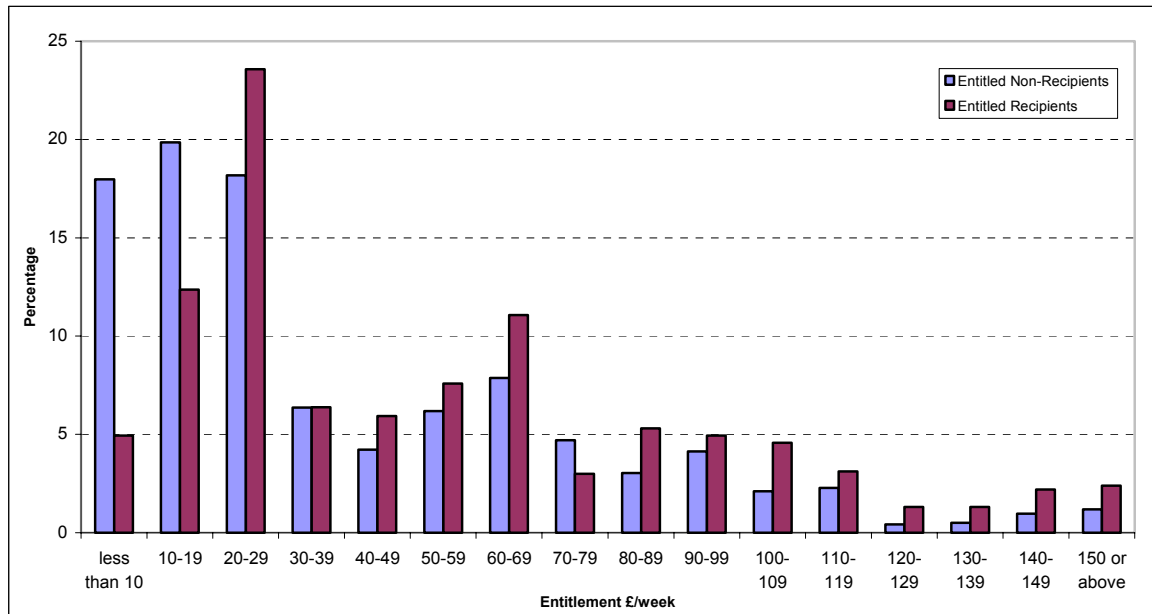


Figure 1.2: Percentage of Non-pensioner Entitled Non-Recipients and Entitled Recipients by band of entitlement to Income Support

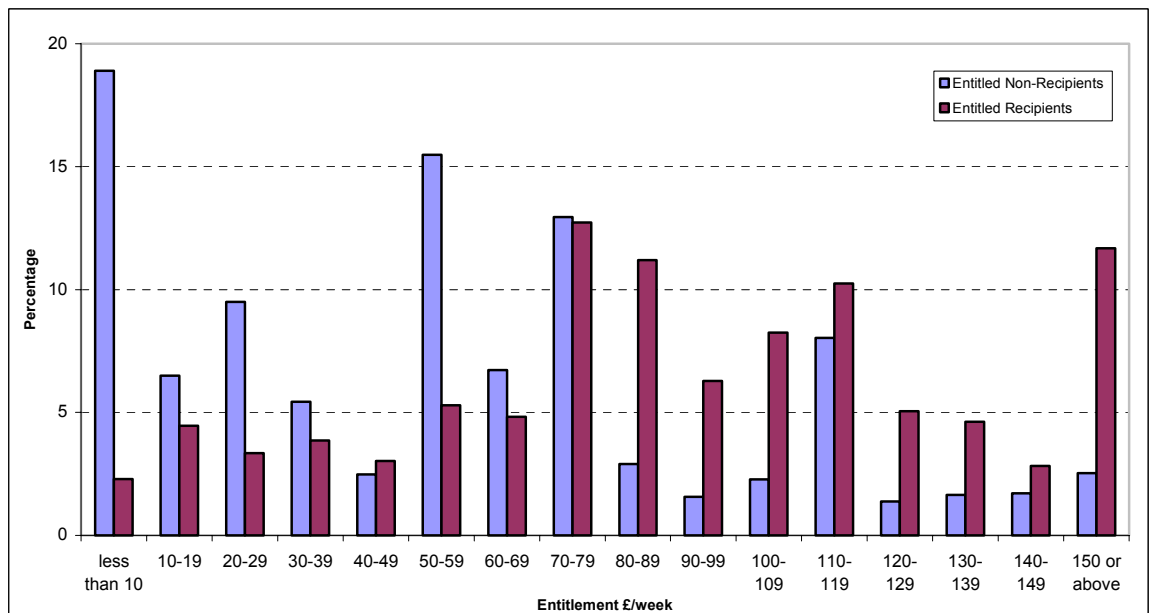


Figure 1.1 and Figure 1.2 indicate that in general those entitled yet not receiving Income Support or Minimum Income Guarantee/ Pension Credit tended to be entitled to smaller amounts than those who are entitled recipients. The results for entitled non-recipient pensioners are particularly skewed towards the lower end with 18% estimated to be entitled to under £10 and well over half to less than £30 per week. The situation for non-pensioners is significantly different in that the results are not clearly concentrated at the lower amounts. There are 19% entitled to under £10 per week but there are also over 15% whom appear to be entitled to between £50 and £59 per week as well as approximately 13% entitled to between £70 and £79 per week.

Clearly one reason that entitled non-recipients may not make a claim for the benefit is that they believe it is not worth the effort due to the amounts that they regard themselves being eligible to receive.

Tenure Profile

Figure 1.3: Percentage of Pensioner Entitled Non-Recipients and Entitled Recipients of Minimum Income Guarantee/ Pension Credit by tenure type

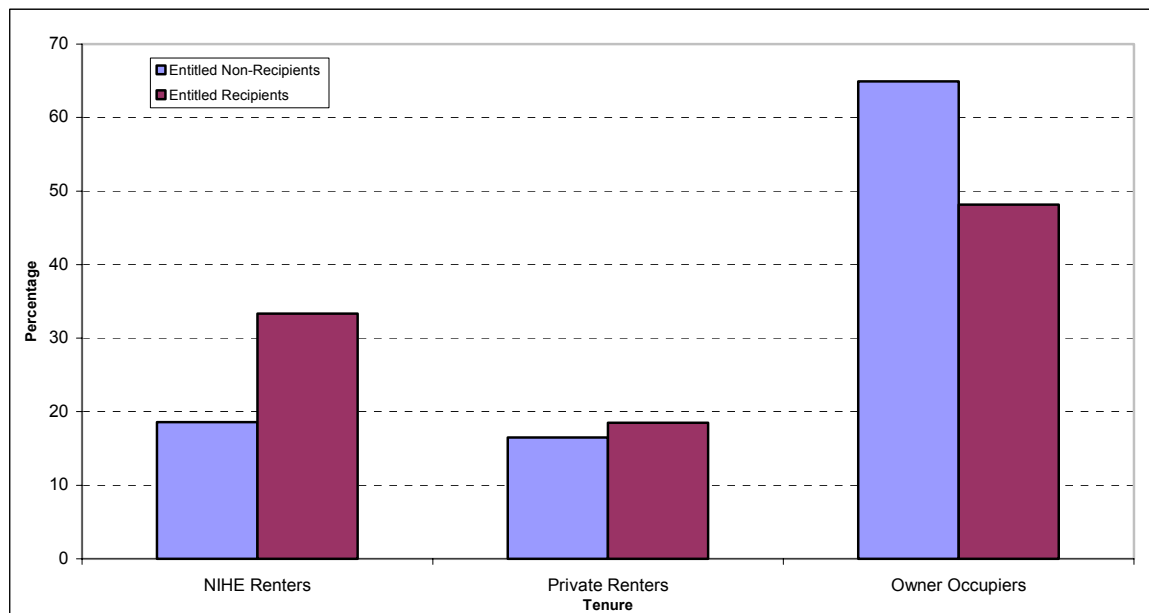


Figure 1.4: Percentage of Non-Pensioner Entitled Non-Recipients and Entitled Recipients of Income Support by tenure

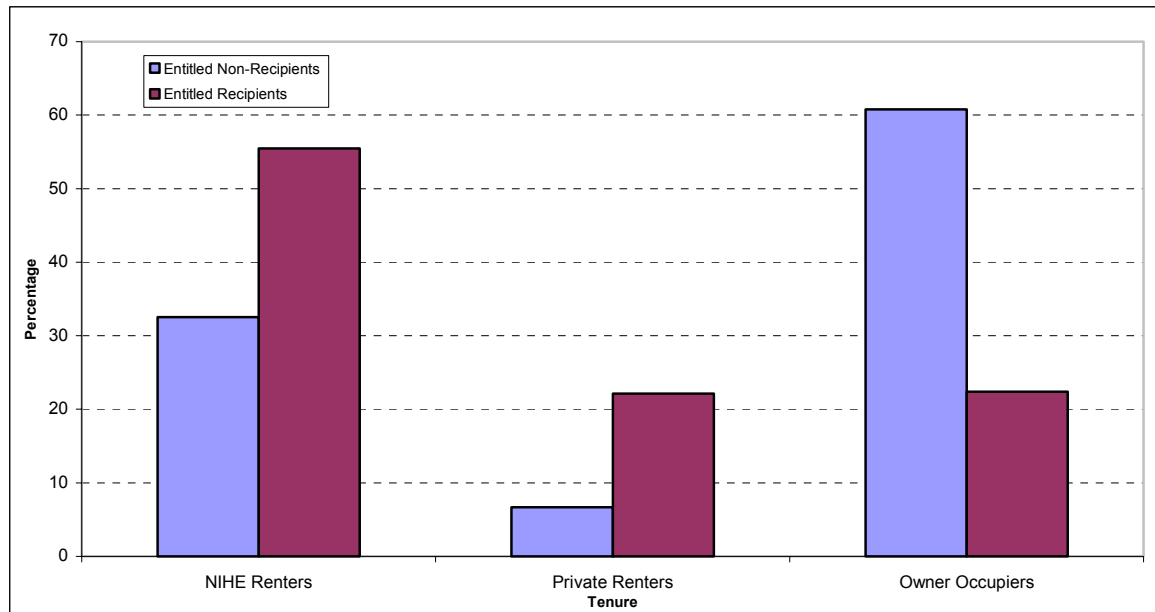


Figure 1.3 shows that over 18% of ENRs of MIG/ Pension Credit were NIHE renters compared to over 33% of ERs; for private renters the figures are 16% for ENRs and 18% for ERs; for owner occupiers the figures are 65% for ENRs and 48% for ERs. Figure 1.4 shows that for non-pensioners 32% of ENRs are NIHE renters compared to 55% of ERs; only 6% of ENRs are private tenants compared to over 22% of ERs; owner occupiers account for over 60% of ENRs compared to 22% of ERs. Therefore it is clear that for both pensioners and non-pensioners the majority of ENRs are owner occupiers with significantly more ERs being NIHE tenants compared to ENRs.

Position of entitled non-recipients in the income distribution

This section combines the data held for the ENRs for both Income Support and MIG/ Pension Credit with that from the Households Below Average Income (HBAI) report. The figures given are based on the income distribution for Great Britain as was the case in the Northern Ireland HBAI publication, and have been given for both Before Housing Costs (BHC) and After Housing Costs (AHC). Analysis is provided for the combined 2002/2003 and 2003/2004 data including and excluding those in receipt of Attendance Allowance (AA) and Disability Living Allowance (DLA). We have therefore combined take-up statistics with household equivalised Income-Based results, which may have the effect of changing the position of some ENRs in the income distribution because of the incomes of other household members.

Table 1.9: Position of ENRs of Income Support in the income distribution

Year / Quintiles		Income Before Housing Costs (BHC)			Income After Housing Costs (AHC)		
		1	2	3 - 5	1	2	3 - 5
All non-pensioners	2002/2004	52%	27%	21%	41%	34%	25%
Non-pensioners excluding those in receipt of DLA	2002/2004	65%	25%	11%	52%	35%	13%

Quintile 1 represents the bottom twenty per cent of the population with the lowest household incomes, while quintile 5 reflects the top twenty per cent with the highest household incomes.

From Table 1.9 we can see that over half of non-pensioner ENRs are in the bottom quintile before housing costs, rising to 65% if we exclude those in receipt of DLA. The figures for after housing costs are lower but again increase when excluding the DLA cases.

Table 1.10: Position of ENRs of Minimum Income Guarantee in the income distribution

Year / Quintiles		Income Before Housing Costs (BHC)			Income After Housing Costs (AHC)		
		1	2	3 - 5	1	2	3 - 5
All Pensioners	2002/2004	45%	28%	27%	36%	30%	35%
Non-pensioners excluding those in receipt of AA/DLA	2002/2004	64%	19%	17%	57%	19%	23%

Table 1.10 shows that 45% of pensioners are in the bottom quintile before housing costs, compared to 36% after housing costs have been taken into account. As with the non-pensioners case above, the proportion in the bottom quintile increases when those receiving either Attendance Allowance or Disability Living Allowance are excluded.

The percentage of entitled non-recipients and entitled recipients living on low incomes

This section provides an analysis of the percentage of ENRs and ERs of Income Support and Minimum Income Guarantee/ Pension Credit living in low-income households. The indicator chosen to define low income is whether a household is below 60 per cent of contemporary median income – the median being the income below which half the population lie. Figures have been calculated for both before housing costs (BHC) and after housing costs (AHC) for 2002/2004.

Table 1.11: Percentage of ENRs and ERs of Minimum Income Guarantee/ Pension Credit below 60 per cent of contemporary median income

			Before Housing Costs (BHC)	After Housing Costs (AHC)
Year / Percentage				
Minimum Income Guarantee / Pension Credit	ENRs	2002/2004	41%	38%
	ERs	2002/2004	18%	12%

Table 1.11 shows that over two-fifths of pensioners that were entitled to but were not receiving Minimum Income Guarantee or Pension Credit lived in low-income households on a before housing costs measure. The proportion after housing costs was slightly lower at 38%. For entitled recipients of the benefit, 18% were in households with low income BHC, and for AHC the figure was 12%.

Table 1.12 Percentage of ENRs and ERs of Income Support (non-pensioners) below 60 per cent of contemporary median income

			Before Housing Costs (BHC)	After Housing Costs (AHC)
Year / Percentage				
Income Support	ENRs	2002/2004	48%	45%
	ERs	2002/2004	41%	53%

Table 1.12 shows that just under half of all ENRs of Income Support lived in low income households on a BHC basis, compared to 41% of those who were actually receiving the benefit. For AHC the figure for those entitled but not receiving the benefit was lower than that for those actually claiming Income Support, at 45% and 53% respectively.

Housing Benefit

Housing Benefit (HB) is paid to those on low incomes who rent their home. It is paid to people who claim the benefit once they have been assessed as being eligible, whether or not the claimant is in full-time work, and may be paid alongside other means tested benefits or on its own. The estimates given exclude the full-time self-employed.

Guide to tables

Take-up statistics for Housing Benefit are presented in two main sets of tables. The first set, Tables 2.1 and 2.2, present take-up estimates by caseload and expenditure respectively for different family types. The second set of tables, 2.3 and 2.4, show caseload and expenditure take-up estimates in terms of different tenure arrangements. In common with the other benefits, Housing Benefit take-up statistics are presented as ranges that reflect the maximum plausible upward and downward effects of quantifiable biases in the baseline figures. Each range also includes a 95% confidence interval to reflect sampling error. Where ranges are wide, uncertainties as to biases account for the major part.

Readers will notice that components do not always sum to totals in the tables. This is because 95% confidence intervals have been calculated separately for components and totals.

Additional tables are presented in the 'Further Analysis' section, which give an indication of where entitled non-recipients appeared in the household income distribution and the extent to which the group had incomes below 60 per cent of contemporary median income.

Results

Table 2.1: Caseload Take-up of Housing Benefit by family type

	Year	Pensioners	Non Pensioner groups			All	
			All Non Pensioners	Couples with Children	Lone Parents		Others
						(Thousands)	
Number of Recipients	2002/2004	44	80	7	30	43	124
Range of Entitled Non-Recipients	2002/2004	1 : 8	2 : 9	0 : 2	1 : 5	0 : 4	3 : 16
							(Percentages)
Take-Up Ranges	2002/2004	84 : 97	90 : 98	79 : 99	86 : 96	92 : 100	88 : 97

Table 2.2: Expenditure Take-up of Housing Benefit by family type

	Year	Pensioners	Non Pensioner groups			All	
			All Non Pensioners	Couples with Children	Lone Parents		Others
						(Pounds)	
Average Weekly Amounts Claimed	2002/2004	45.1	52.2	54.8	56.2	48.9	49.6
Average Weekly Amounts Unclaimed	2002/2004	38.5	39.1	35.5	47.2	29.8	40.9
Median Weekly Amounts Unclaimed	2002/2004	39.1	42.0	35.0	50.6	20.9	39.1
							(Millions of Pounds)
Total amount Claimed (Annual)	2002/2004	102	217	19	89	109	319
Total Range Unclaimed (Annual)	2002/2004	2 : 20	3 : 22	0 : 5	2 : 14	0 : 9	6 : 39
							(Percentages)
Take-Up Ranges	2002/2004	84 : 98	91 : 99	80 : 100	86 : 97	93 : 100	89 : 98

Take-up was consistent across all family types and it is not possible to state whether take-up differed due to the overlap in quoted ranges.

Table 2.3: Caseload Take-up of Housing Benefit by tenure type

	Year	NIHE Tenants	Private Renters	All
				(Thousands)
Number of Recipients	2002/2004	79	44	124
Range of Entitled Non-Recipients	2002/2004	3 : 9	0 : 9	3 : 16
				(Percentages)
Take-Up Ranges	2002/2004	90 : 96	83 : 100	88 : 97

Table 2.4: Expenditure Take-up of Housing Benefit by tenure type

	Year	NIHE Tenants	Private Renters	All
				(Pounds)
Average Weekly Amounts Claimed	2002/2004	46.4	55.4	49.6
Average Weekly Amounts Unclaimed	2002/2004	33.3	49.5	40.9
Median Weekly Amounts Unclaimed	2002/2004	35.9	50.0	39.1
				(Millions of Pounds)
Total amount Claimed (Annual)	2002/2004	191	128	319
Total Range Unclaimed (Annual)	2002/2004	4 : 18	0 : 27	6 : 39
				(Percentages)
Take-Up Ranges	2002/2004	92 : 98	83 : 100	89 : 98

As above for family type it is not possible to state whether take-up is higher for NIHE tenants or private renters due to the scale of the ranges for each.

Further analysis of those entitled to but not receiving Housing Benefit

The following results are for those identified as entitled non-recipients (ENRs) of Housing Benefit for the period 2002/2004. Clearly some of the cases analysed may not actually be entitled to the benefit and other entitled cases may have been overlooked in the modelling. Where possible we compare the characteristics of those ENRs with the characteristics of the entitled recipients (ERs) of Housing Benefit, hopefully indicating some of the possible causes of non-take-up.

Figures 2.1 and 2.2 show the relationship between take-up and size of entitlement to Housing Benefit, for pensioners and non-pensioners respectively.

Figure 2.1: Percentage of Pensioner Entitled Non-Recipients (ENRs) and Entitled Recipients (ERs) by band of entitlement to Housing Benefit

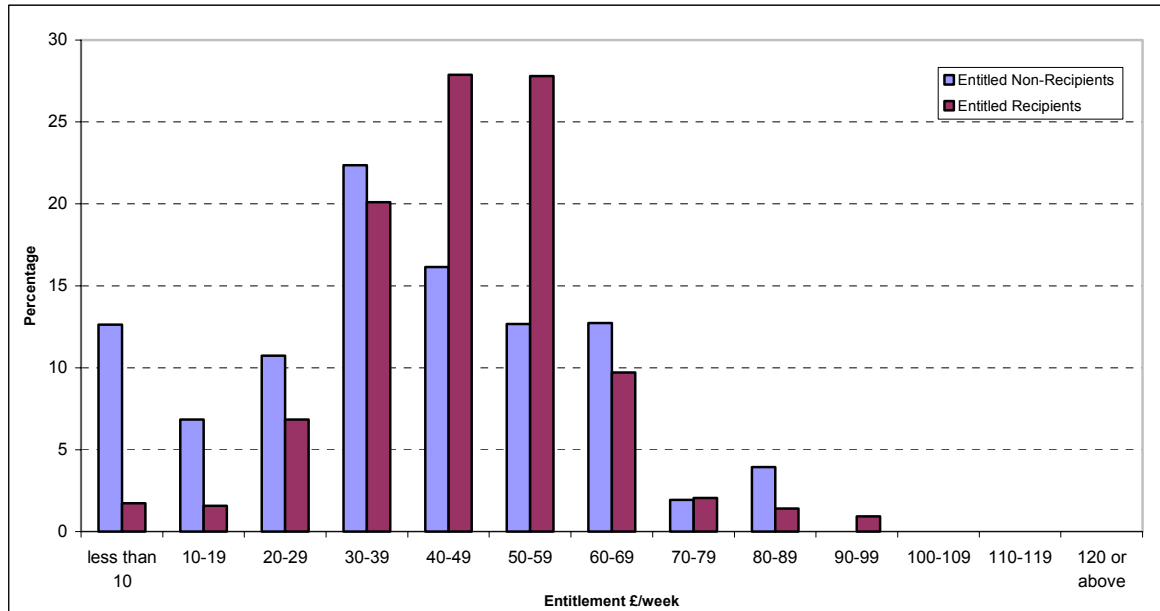
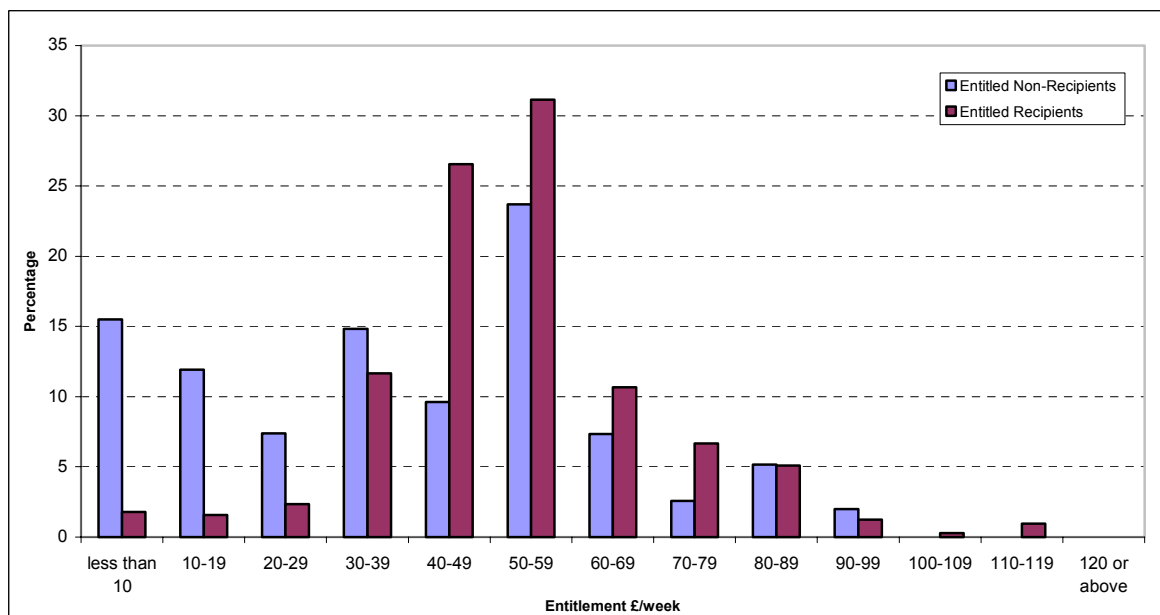


Figure 2.2: Percentage of Non-Pensioner Entitled Non-Recipients (ENRs) and Entitled Recipients (ERs) by band of entitlement to Housing Benefit



The position of entitled non-recipients in the income distribution

This section provides an analysis of the position of pensioner and non-pensioner ENRs in the household income distribution. Analysis is presented for income both before and after housing costs for 2002/2004, and including and excluding those pensioner ENRs in receipt of Attendance Allowance (AA) or Disability Living Allowance (DLA), and those non-pensioners in receipt of DLA.

The following tables have been produced, by combining the data sets used to produce this publication with the data sets used to produce the 'Households Below Average Income Northern Ireland' publication. This means we have combined benefit unit based results (take-up statistics) with household equivalised Income-Based results (HBAI).

Table 2.5: Pensioner ENRs position in the income distribution

Year / Quintiles		Income Before Housing Costs (BHC)		Income After Housing Costs (AHC)	
		1	2 - 5	1	2 - 5
All Pensioner ENRs	2002/2004	39%	61%	42%	58%
Pensioner ENRs excluding those in receipt of AA/DLA	2002/2004	46%	54%	46%	54%

Quintile 1 represents the bottom twenty per cent of the population with the lowest household incomes, while quintile 5 reflects the top twenty per cent with the highest household incomes.

Table 2.5 shows around two-fifths of all pensioner ENRs of Housing Benefit were in the bottom quintile of the income distribution, both before and after housing costs. This increased to 46% when excluding those in receipt of either AA or DLA, again for both before and after housing costs.

Table 2.6 Non-pensioner ENRs position in the income distribution

Year / Quintiles		Income Before Housing Costs (BHC)		Income After Housing Costs (AHC)	
		1	2 - 5	1	2 - 5
All non-pensioner ENRs	2002/2004	65%	35%	71%	29%
Non-pensioner ENRs excluding those in receipt of DLA	2002/2004	65%	35%	72%	28%

Table 2.6 shows that just under two-thirds of non-pensioner ENRs were in the bottom quintile of the income distribution in 2002/2004 before housing costs, with 71% after housing costs. The same situation occurred when we removed those non-pensioners in receipt of DLA.

The percentage of entitled non-recipients and entitled recipients living on low incomes

This section provides an analysis of the percentage of ENRs and ERs living in low-income households. In the following analysis we have used the indicator of whether a household is below 60 per cent of contemporary median income – the median being the income below which half the population lie. As before we have combined data using the HBAI information and figures are provided for 2002/2004 both before housing costs (BHC) and after housing costs (AHC).

Table 2.7: Percentage of ENRs and ERs below 60 per cent of contemporary median income

Year / Percentage			Before Housing Costs (BHC)	After Housing Costs (AHC)
Pensioner	ENRs	2002/2004	31%	44%
	ERs	2002/2004	7%	17%
Non-pensioner	ENRs	2002/2004	60%	72%
	ERs	2002/2004	46%	62%

Table 2.7 shows that nearly one-third of all of all pensioner ENRs lived in households below 60% of median income for before housing costs cases, over four times the figure for the ERs below the 60% median income. For after housing costs the proportion for pensioners is even higher, both for ENRs and ERs, at 44% and 17% respectively.

For non-pensioners the difference between ENRs and ERs is less pronounced, although the overall picture is much higher than that for pensioners. Before housing costs have been deducted six-tenths of non-pensioner ENRs are living in households below 60 per cent of median income, compared to 46% of ERs. For after housing costs the gap has narrowed with 72% of ENRs and 62% of ERs living in households below this low income measure.

Chapter 3

Jobseeker's Allowance

Jobseeker's Allowance (JSA) was introduced in October 1996 and is a benefit with two routes of entry. Claimants who have paid sufficient National Insurance contributions get contribution-based JSA. Those who do not qualify for, or whose needs are not met by, contribution-based JSA, may qualify for income-based JSA for themselves and their dependents according to need. The rules for income-based Jobseeker's Allowance are similar to those for Income Support except for the additional requirements that claimants have to demonstrate that they are available for and actively seeking work. **The figures presented in this chapter refer only to the income-based element of Jobseeker's Allowance. This will be referred to from this point on as JSA (IB).**

For the purpose of this analysis we have assumed that those who may have been eligible to claim either Minimum Income Guarantee/Pension Credit/Income Support or Jobseeker's Allowance (IB) would have claimed MIG/PC/IS rather than JSA(IB). This only affects men over 60 but under 65 and lone parents.

Guide to tables

Two tables, 3.1 and 3.2, present caseload and expenditure take-up statistics respectively for Jobseeker's Allowance (IB). Statistics are sub-divided into four non-pensioner family types – couples with children, single males, single females and couples without children. Take-up statistics are presented as ranges, rather than individual figures, and these reflect the maximum upward and downward effects that could reasonably occur. Each range includes a 95% confidence interval to reflect sampling error, meaning that 95% of the time the true value will fall within the quoted range.

The statistics presented for all family types represent the combination of data for 2002/2003 and 2003/2004 to try and obtain adequate sample sizes. Despite combining the two years sample sizes are still small and therefore figures for individual family types need to be treated with caution.

Readers should note that component parts do not always sum to totals in the table as confidence intervals have been calculated separately for components and totals.

Results

Table 3.1: Caseload Take-up of Jobseeker's Allowance by family type

	Year	Couples With Children	Single Males	Single Females	Couples Without Children	All
						(Thousands)
Number of Recipients	2002/2004	3	23	7	1	33
Range of Entitled Non-Recipients	2002/2004	0 : 1	4 : 20	1 : 10	0 : 1	6 : 30
						(Percentages)
Take-Up Ranges	2002/2004	80 : 100	53 : 85	41 : 86	63 : 96	53 : 85

Table 3.2: Expenditure Take-up of Jobseeker's Allowance by family type

	Year	Couples With Children	Single Males	Single Females	Couples Without Children	All
						(Pounds)
Average Weekly Amounts Claimed	2002/2004	137.1	49.2	45.6	81.9	56.5
Average Weekly Amounts Unclaimed	2002/2004	61.9	45.9	42.4	83.6	45.6
Median Weekly Amounts Unclaimed	2002/2004	63.2	43.3	42.7	84.7	43.3
						(Millions of Pounds)
Total amount Claimed (Annual)	2002/2004	21	58	17	6	96
Total Range Unclaimed (Annual)	2002/2004	0 : 4	9 : 53	2 : 28	0 : 4	12 : 78
						(Percentages)
Take-Up Ranges	2002/2004	84 : 100	52 : 87	37 : 90	61 : 96	55 : 89

Take-up appeared to be highest for couples with children for both caseload and expenditure figures, though due to the overlap of the ranges we can not state this categorically. As demonstrated before with the other benefits the average unclaimed amounts are lower than that for the amounts actually being claimed.

Further analysis of those entitled to but not receiving Jobseeker's Allowance (IB)

We now provide supplementary analysis for both the entitled non-recipients and those classed as entitled recipients to attempt to discover any significant characteristic differences.

Figures 3.1, 3.2, 3.3 and 3.4 show the percentage of entitled non-recipients (ENRs) and entitled recipients (ERs) against bands of entitlement to Jobseeker's Allowance (IB) for the four family types shown in Tables 3.1 and 3.2. All four graphs show that smaller amounts were less likely to be claimed.

Figure 3.1: Percentage of Entitled Non-Recipients and Entitled Recipients by band of entitlement to Income-Based Jobseeker's Allowance (Couples with Children)

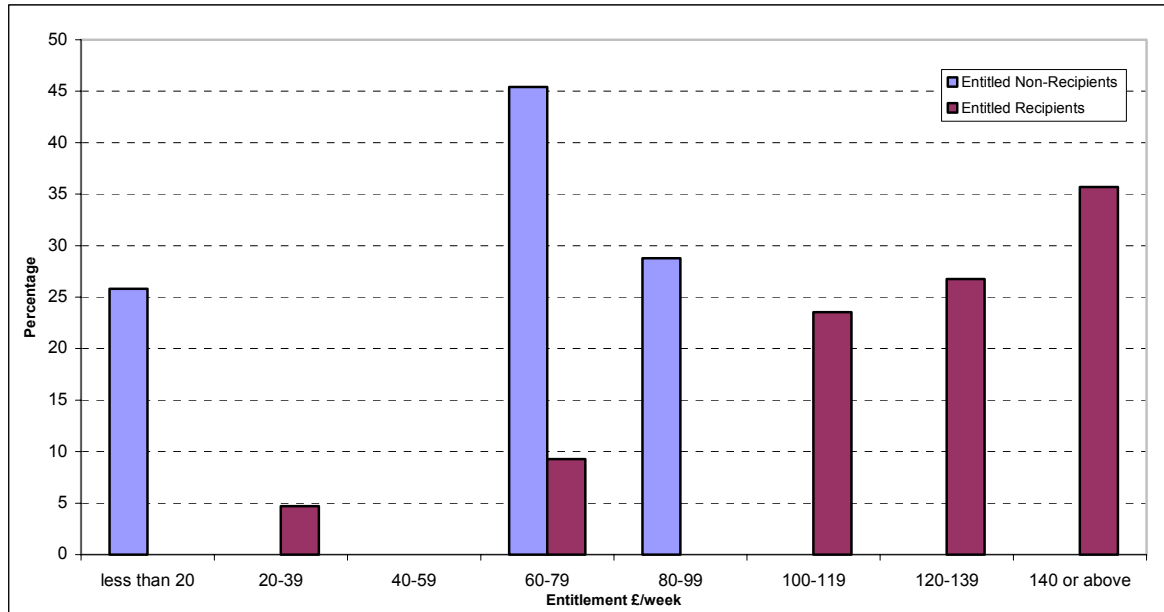


Figure 3.2: Percentage of Entitled Non-Recipients and Entitled Recipients by band of entitlement to Income-Based Jobseeker's Allowance (Single Males)

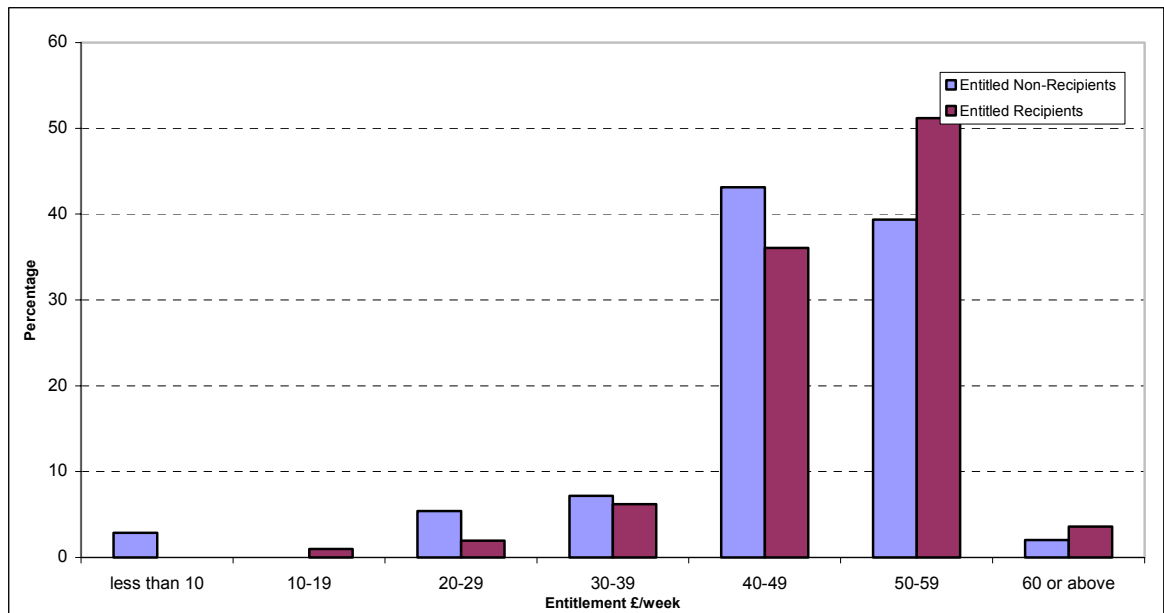


Figure 3.3: Percentage of Entitled Non-Recipients and Entitled Recipients by band of entitlement to Income-Based Jobseeker's Allowance (Single Females)

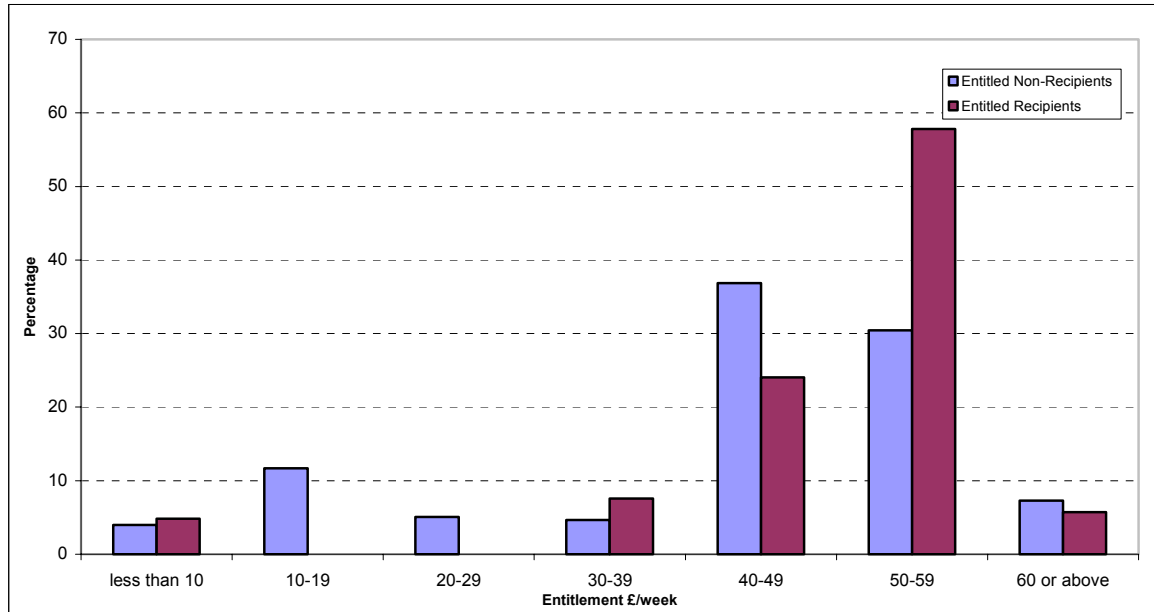
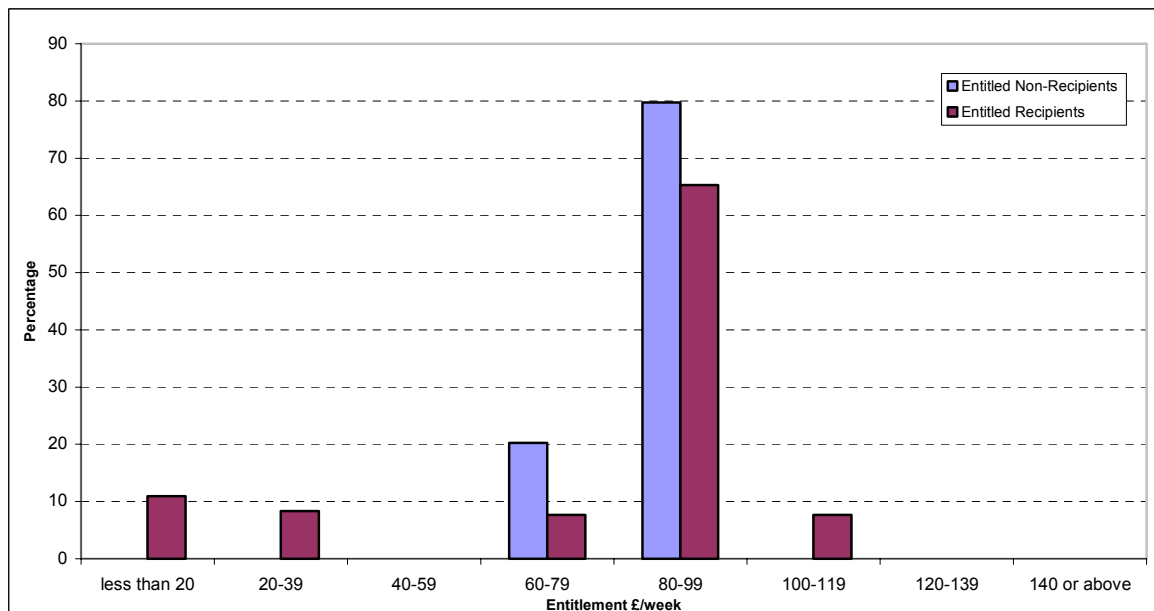


Figure 3.4: Percentage of Entitled Non-Recipients and Entitled Recipients by band of entitlement to Income-Based Jobseeker's Allowance (Couples without Children)



Position of entitled non-recipients and entitled recipients in the income distribution

This section combines the data held for the ENRs for Jobseeker's Allowance with that from the Households Below Average Income report. The figures given are based on the income distribution for Great Britain as was the case in the Northern Ireland HBAI publication, and have been given for both Before Housing Costs (BHC) and After Housing Costs (AHC). Analysis is provided for the combined 2002/2003 and 2003/2004 data. We have therefore combined take-up statistics with household equivalised Income-Based results, which may have the effect of changing the position of some ENRs in the income distribution because of the incomes of other household members.

Table 3.3: Jobseeker's Allowance (IB) ENRs and ERs position in the income distribution

Year / Quintiles		Income Before Housing Costs (BHC)		Income After Housing Costs (AHC)	
		1	2 - 5	1	2 - 5
All ENRs	2002/2004	52%	48%	42%	58%
All ERs	2002/2004	74%	26%	72%	28%

Quintile 1 represents the bottom twenty per cent of the population with the lowest household incomes, while quintile 5 reflects the top twenty per cent with the highest household incomes.

From Table 3.3 we can see that over half of ENRs are in the bottom quintile before housing costs, compared to 74% of ERs. The figures for after housing costs are lower but again are higher for ERs than ENRs at 72% and 42% respectively.

The percentage of entitled non-recipients and entitled recipients living on low incomes

This section provides an analysis of the percentage of ENRs and ERs of Jobseeker's Allowance (IB) living in low-income households. The indicator chosen to define low income is whether a household is below 60 per cent of contemporary median income – the median being the income below which half the population lie. Figures have been calculated for both before housing costs (BHC) and after housing costs (AHC) for 2002/2004.

Table 3.4: Percentage of ENRs and ERs of Jobseeker's Allowance (IB) below 60 per cent of contemporary median income

		Before Housing Costs (BHC)	After Housing Costs (AHC)
		Living below 60% median	Living below 60% median
All ENRs	2002/2004	47%	43%
All ERs	2002/2004	71%	72%

Table 3.4 shows that before housing costs nearly half of those that were entitled to but were not receiving JSA (IB) lived in low-income households. The proportion after housing costs was slightly lower at 43%. For entitled recipients of the benefit, 71% were in households with low income BHC, and for AHC the figure was 72%.

Chapter 4

Methods and Data Sources

The statistics presented in this publication are based on the following definition of take-up:

Caseload:

$$\frac{\text{Average no. of Benefit Units (Bus) receiving benefit}}{\text{Average no. of BUs receiving benefit} + \text{Average no. of BUs entitled but not receiving benefit}}$$

Expenditure:

$$\frac{\text{Total amount of benefit received in the course of the year}}{\text{Total amount of benefit received} + \text{Total amount of benefit unclaimed}}$$

Take-up statistics are presented as ranges and are calculated in three stages. First, the baseline estimates are obtained from a combination of administrative data and Family Resources Survey (FRS) data. Secondly, an assessment of the biases in these estimates is made, using various sources of information, and range estimates are calculated. Finally a 95% confidence interval is placed around the range estimates to take account of the potential effects of sampling variation. It can then be assumed that true take-up lies within the resulting range estimates.

The Baseline Estimates

The DSD administrative records contain information on recipients (Rs) of Income Support, Minimum Income Guarantee/Pension Credit, Jobseeker's Allowance (IB) and Housing Benefit. Analysis of the FRS produces information on entitled non-recipients (ENRs). Using the definition of caseload take-up given above for each benefit gives a simple formula for baseline take-up:

$$\text{Caseload take-up} = \frac{R_{\text{admin}}}{R_{\text{admin}} + \text{ENR}_{\text{FRS}}}$$

where subscripts refer to the data source.

The formula for baseline expenditure take-up is as follows:

$$\text{Expenditure take-up} = \frac{R_{\text{admin}} \times \text{£}R_{\text{admin}}}{(R_{\text{admin}} \times R_{\text{admin}}) + (\text{ENR}_{\text{FRS}} \times \text{£ENR}_{\text{FRS}})}$$

with £R and £ENR being the average weekly amounts received by recipients and unclaimed by entitled non-recipients.

Calculation of Error Ranges

We attempt to allow for the potential bias in the baseline estimates before applying the 95% confidence intervals. Five sources of error that can significantly distort the baseline estimates of caseload take-up have been identified:

- over-statement of entitlement – this occurs when a benefit unit that is not truly entitled to benefit is calculated, by an analyst, to be entitled;
- under-statement of entitlement – this occurs when a benefit unit that is truly entitled to benefit is calculated, by an analyst, not to be entitled;
- under-reporting of benefit receipt in the FRS – this occurs when someone receiving the benefit fails to report receipt in the FRS interview. For example, under-reporting may occur as misreporting if a person receiving £70 a week Retirement Pension and £5 Minimum Income Guarantee, reports that they actually receive £75 Retirement Pension;
- inaccurate grossing-up of FRS counts – as the FRS is a survey of only a sample of the population, counts derived from the FRS need to be grossed-up – i.e. multiplied up to reflect the true members of various family types and people of different ages in the population – to give meaningful estimates of the actual number of recipients or entitled non-recipients in the population. Inaccurate grossing-up will result in either under or over-estimation of the number of recipients or entitled non-recipients in the population;
- payment of benefit to non-entitled benefit units – again this is fairly self-explanatory. It may occur for several reasons: administrative error, inaccurate information given to the benefit office or delays in responding to a change in circumstances.

An assessment of the extent of these errors must be made from available evidence, which unfortunately is often ambiguous. Generally though, it is possible to identify upper and lower limits on the likely extent of each error. These limits for individual errors are then grouped together to generate upper and lower bounds on the true number of entitled non-recipients. Of the errors listed above, only the last affects the count of recipients, but no adjustment is made because the definition of take-up allows for the inclusion of non-entitled recipients. Hence, the range of true take-up can be calculated from the recipient counts and the range for ENRs.

To produce estimates of true expenditure take-up, further information is required about the effect of errors on the estimated amounts which entitled non-recipients do not claim. At present there is insufficient information to tell whether these estimated amounts are systematically different from the true amounts left unclaimed. Without any extra information it is assumed that the estimated amount unclaimed is an unbiased estimator of the true amount unclaimed.

The range of true expenditure take-up is therefore calculated by combining the measured average amount received and the average estimated amount unclaimed with the higher and lower limits of true caseload take-up. For instance, if the true range of caseload take-up is from 65% to 80%, and the average claimed amount is £20, and the average unclaimed amount is estimated to be £5, then the range for true expenditure take-up will be from $(65 \times 20)/[(65 \times 20) + (35 \times 5)]$ to $(80 \times 20)/[(80 \times 20) + (20 \times 5)]$ i.e. from 88% to 94%.

This calculation is based on the assumption that estimates of the average amount unclaimed are accurate. In practice this may not always be the case, and so we cannot be as confident that true expenditure take-up lies within the range presented here as we can that true caseload take-up lies within its range. The average weekly amount unclaimed is presented as a single estimate as insufficient information is available to allow identification of a range. In practice, the 'All' average amount unclaimed is a weighted average of the average amounts unclaimed by each family/tenure type, where the weights are the baseline estimates of the number of entitled non-recipients.

Data Sources

The Family Resources Survey

The Family Resources Survey was used for all three benefits to analyse entitled non-recipients. During the financial year 2003/2004 the FRS interviewed 1,917 households in Northern Ireland (1,750 households in 2002/2003). The structure and wording of the questionnaire, along with the advice given to interviewers, is continually under review. Further information on the design of the survey is contained in the FRS Report.

Administrative data

Income Support and Minimum Income Guarantee/Pension Credit

The administrative data is sourced from 100% scans at May, August, November and February, which are then aggregated to give an annual average for private household claimants, by removing those in communal establishments. This then gives a caseload figure for the financial year.

It should be noted that Minimum Income Guarantee was replaced by Pension Credit in October 2003 and so the figures for pensioners for November 2003 and February 2004 are Pension Credit rather than MIG.

Housing Benefit

The data is sourced from 100% scans supplied by Belfast City Council at May, August, November and February. This data is then averaged for the financial year to provide the relevant caseload figure.

Jobseeker's Allowance (Income-Based)

The administrative data is sourced from 100% scans at May, August, November and February, which are then aggregated to give an annual average which is then used as the caseload figure for the financial year. A small number of claimants have entitlement to both contributions and Income-Based Jobseeker's Allowance but actually receive Income-Based Jobseeker's Allowance. Within this publication such cases are counted as recipients of Income-Based JSA.

Adjustments

Private Household Adjustment

Since the estimates rely on the FRS and administrative data sources it is essential that the data from these sources cover, as near as possible, the same population. The FRS only covers private households, and therefore a number of cases had to be removed from the administrative data.

For Income Support, cases in residential care or nursing homes were excluded from the administrative data. Asylum seekers, people receiving urgent case payments and those staying in hospital long term (over 6 weeks) were also excluded. Asylum seekers and people receiving urgent case payments were excluded from the administrative data for Jobseekers Allowance.

Self-employed adjustment

Income of the full-time self-employed on the FRS is very difficult to assess. Sufficiently accurate assessment for modelling benefit entitlement is almost impossible. For this reason all full-time self-employed cases were excluded from the FRS data. In order to exclude them from the take-up estimates completely, it was necessary to exclude them from the administrative data as well. This only affects Housing Benefit as the full-time self-employed are ineligible for the remaining benefits.

For Housing Benefit estimates of the proportion of recipients who were self-employed were made from the FRS. These were then applied to the administrative data.

Other data exclusions

Several other small groups were excluded from the Income Support and the Jobseeker's Allowance analyses. In some circumstances 16 and 17 year olds without dependants can be eligible for Income Support or Jobseeker's Allowance. These circumstances are very difficult to model on the FRS. For this reason all 16 and 17 year old benefit units without children have been excluded from the administrative and FRS data.

Because of the various adjustments to the data sources outline above estimates may differ from those in other published sources.

Grossing Up

The take-up statistics are all based on grossed up FRS data. The grossing system used is designed to make grossed estimates more accurate and reliable. The grossing scheme controls the population estimates of benefit units and households, taking into account variables like age, sex and household numbers.

Problems

Dealing with those awaiting the outcome of a claim for benefit

When a person claims benefit there is often a delay between the date of claim and the date they receive a decision on their claim. This causes problems when estimating the number of ENRs. If a person says that they are not receiving, say, Housing Benefit at the time of their interview, but we model them as entitled, they are initially classified as an ENR. This may be false in cases where the respondent is awaiting the outcome of an eventually successful claim. In reality the respondent was actually in receipt in respect of the time of the FRS interview, and should not be classified as an ENR.

For Income Support, Minimum Income Guarantee/Pension Credit, Housing Benefit and Jobseeker's Allowance (IB) the ranges of take-up take account of these pipeline effects. The FRS asks whether or not they are awaiting the outcome of a claim. We use this information to assess the extent of under-reporting of benefit receipt due to people awaiting the outcome of a claim.

The number of non-recipients who are awaiting the outcome of a claim is taken from the FRS. We then make an assessment about the proportion of these non-recipients who are likely to be successful in their claim. To do this we make use of evidence from the FRS about the proportion who are entitled. These assessments are added to others we make about the under-reporting of benefit receipt.

The existence of pipeline cases tends to depress the uncorrected estimate of take-up below its true level. By making allowance for pipeline cases we shift the take-up ranges higher.

Construction of take-up ranges

Introduction

Chapter 4 explains in broad terms how estimates of take-up are calculated. This Appendix goes into rather more detail. It begins by re-capping the sources of error that can affect the baseline estimates of take-up. It subsequently describes in some detail, how we estimate the size of these errors; describes the additional assumptions required to obtain unambiguous estimates of take-up; presents an example of how all this works in practice; and closes with some observations about the general effects of the different assumptions.

The five sources of error

Chapter 4 described the five potential sources of error that can introduce bias into estimates of take-up. To reiterate they are:

- Over-statement of entitlement to benefit – known as Error A;
- Under-reporting of benefit receipt – known as Error B;
- Under-statement of entitlement to benefit – known as Error C;
- Inaccurate grossing-up – known as Error D;
- Payment of benefit to non-entitled benefit units – known as Error E.

The formula used for calculating caseload take-up – first presented in Chapter 4 - shows that we take our count of benefit recipients direct from DSD administrative records; so it cannot be affected by any of the errors A to D listed above. The administrative counts will include some people who are not actually entitled to receive benefit, Non-entitled recipients (NERs), and thus this data can be affected by error E. However, this error is disregarded and not introduced into our results because the DSD definition of take-up allows for non-entitled benefit units to be included in the recipient count. So the accuracy of the recipient count we use is not affected by any of the errors listed above.

However all five errors affect the accuracy in our estimation of the number of entitled non-recipients (ENRs). To correct this estimate it is necessary to estimate the size of errors A to E. Once this is done we can then adjust the initial estimate of the number of ENRs to give us an unbiased estimate of the true figure. Combining this with the recipient count we can arrive at an unbiased estimate of the take-up rate.

In an ideal world the exact size of the errors A to E would be known. This would enable us to fully and unambiguously correct for them and publish a single unbiased point estimate of true take-up. Unfortunately we only have subjective estimates about the likely size of each error. This means in most cases we have to assume that each error could be as high as say X or as low as say Y. Assuming high and low values for the size of each error results in high and low estimates for true take-up. It is these high and low estimates that constitute the range estimate that we publish.

Estimating the size of the errors

We only have a rough idea about the size of errors A to E because the evidence available to us is often ambivalent and scarce in nature. The main evidence we bring to consider is the following two statistics:

- the percentage of grossed-up FRS recipients modelled as not entitled. We refer to this as 's' and it can be written as the number of non-entitled recipients (NERs) in the FRS divided by the number of recipients of the benefit in the FRS:

$$s = \frac{NER_{FRS}}{R_{FRS}}$$

- the ratio of the grossed-up FRS count of recipients to the administrative count of recipients. We refer to this as 't' and it can be written as:

$$t = \frac{R_{FRS}}{R_{admin}}$$

Clues provided by 's'

We estimate the number of ENRs using the FRS. The FRS contains detailed information about household composition, income, employment and savings. Using this information we mimic the benefit rules and estimate whether or not a benefit unit is entitled or not entitled to receive the benefit; this process is known as modelling entitlement. The 's' statistic is affected by errors in modelling entitlement and by the receipt of benefit by non-entitled people. The more modelling error there is, the larger 's' will be. The more NERs there are, the larger 's' will be. Though not conclusive, 's' gives us useful clues about the likely size of errors A, C and E.

Modelling errors A and C arise where we are unable to accurately assess a benefit unit's true entitlement because we do not have a full picture of their relevant circumstances. This can happen for a number of reasons. Firstly, whilst the FRS contains a large amount of detail relevant to calculating benefit entitlement, it does not necessarily contain all the detail required. Also respondents, for whatever reason, may not provide us with fully accurate accounts of their circumstances. With imperfect data, there are bound to be some errors in identifying which benefit units are entitled to a benefit. In the absence of any evidence to the contrary, errors A and C are assumed to be symmetrical in size. We shall take a look at the other evidence we use to consider whether or not this assumption is valid later in the text. Even when we assume errors A and C are of equal size, their effects are unlikely to cancel out because error A will typically add more to the count of ENRs than error C subtracts from it. So it is important to estimate the size of errors A and C.

If 's' is, say, 10% then this could imply that there are substantial modelling errors. Alternatively, modelling errors might be small and the 10% value for 's' might mainly reflect receipt of benefit by people not truly entitled. To get over this ambiguity we assume the first scenario when setting the upper limit for error C (and by assumption error A, when other evidence suggests the errors are equally likely). So the upper limit is set at s%. We set the lower limits for errors A and C to (s/3)%. We do not set the lower limits to zero because it seems unlikely that A and C could ever be zero.

An important point to note here is that the assumptions we use for the upper and lower limits of each error do not go to the extreme bounds of plausibility. However, wide ranges are used where the available evidence suggests that there is a wide range of plausible assumptions.

The size of error E is determined in the same way as the size of errors A and C except that the upper limit is capped at 15% because it seems unlikely that the proportion of recipients not entitled to benefit could exceed 15%.

Clues provided by 't'

The 't' statistic provides some evidence about the likely size of errors B and D, the under-reporting of benefit receipt and grossing errors respectively. If we knew our grossing-up was perfect then a 't' of less than 100% would provide a strong indication of the size of error B. Conversely, if we knew that under-reporting was unlikely, then a 't' of less than 100% would provide strong evidence of the size of error D.

In practice it is possible that both sources of error will occur simultaneously. So 't' may reflect both under-reporting and grossing problems. It should also be remembered that even if we knew that underreporting did not occur for a particular group, the value of 't' itself would only be an indicator of the impact error D on the number of ENRs. Because 't' is a measure for recipients, it cannot be assumed that it gives an accurate indication of the size and direction of errors in grossing-up the number of ENRs. Assumed upper and lower limits for error D do not reflect the size of the error in the population, but the likelihood of the error generating an inaccurate count of ENRs.

A further complication is that, even if we knew grossing was not a problem and we attributed a low value of 't' to under-reporting, this under-reporting would not necessarily introduce a large error in the estimate of the number of ENRs. This is because benefit units not reporting receipt of benefit will only appear to be entitled if they also report too low a total income. If all that happens is they, for example, misreport their Minimum Income Guarantee as Retirement Pension, and so the correct total income is reported, they will not be falsely classified as ENRs.

In setting the upper limit for the size of error B we need to make an assumption about the percentage of under-reporting cases that will generate false ENRs. We do this by calculating the proportion of recipients on the FRS who are modelled to be entitled to more than they report receiving. This 'overmodelling' could be due to under-reporting of the Housing Benefit amount or our failure to accurately mimic the benefit rules, alternatively it could be due to under-reporting of total income. This last reason is the condition that needs to be in place alongside failure to report receipt, in order to generate a false ENR case. So the percentage of FRS recipients 'over-modelled' gives an indication of the upper limit of the proportion of benefit units failing to report receipt who would also be modelled as entitled and therefore falsely classified as ENRs. This is another example where our assumptions about errors do not go to the extreme bounds of plausibility.

Chapter 4 describes how we use information in the FRS about outstanding benefit claims to assess the extent to which under-reporting of benefits is due to people awaiting the outcome of a claim for benefit. In practice we express the number of cases awaiting the outcome of a claim and who appear to be entitled, as a percentage of the administrative data recipient count. We add this to the value of 't' before working out the size of the upper limit of error B. This is done because these 'pipeline cases' are not genuine ENRs – they have already submitted a claim.

In setting the lower limit for error B we assume that there is no under-reporting of benefit except that represented by the 'pipeline case' percentage.

So a low value of 't' may reflect some or all of the following:

- under-grossing – error D;
- under-reporting generating false ENRs – error B;

- under-reporting NOT generating false ENRs;
- pipeline cases generating false ENRs – error B.

The interaction between errors B and D is difficult to disentangle, therefore we must come to judgements about the likelihood of there being an under-reporting or grossing problem.

For high values of 't' we must also allow for the possibility that we have over-grossed the estimate of ENRs. For values of 't' that are close to 100% we make the assumption that under-reporting, undergrossing and over-grossing all may have occurred. For values of 't' that are significantly higher than 100% the assumptions are simplified; we assume no possibility of error B or of under-grossing. We also assume that there is no possibility of over-reporting benefit receipt.

Finally we check that the assumed level of error B is consistent with the uncorrected/crude measured level of take-up. Without this check it would not be possible to assume a level of error B which could occur given the estimated number of ENRs.

Tables 1 to 3 summarise the assumptions we make about the upper and lower limits of the sizes of errors B and D. Note that under-grossing assumptions are labelled D1 and over-grossing assumptions are labelled D2. Note also that outstanding claims cases are labelled as 'pipeline %'.

Table 1: Values/ranges of error B

Size of pipeline adjusted 't'	Error B	
	Lower limit	Upper limit
<90%	Pipeline%	$(X*(100\text{-pipeline adjusted 't'})\%) + \text{pipeline}\%$
90% - 95%	Pipeline%	$(X*(100\text{-pipeline adjusted 't'})\%) + \text{pipeline}\%$
95% - 100%	Pipeline%	$(X*(100\text{-pipeline adjusted 't'})\%) + \text{pipeline}\%$
100% - 105%	Pipeline%	Pipeline%
105% - 110%	Pipeline%	Pipeline%
110% - 120%	Pipeline%	Pipeline%
120% and over	Pipeline%	Pipeline%

Where X = percentage of under-reporting cases that could generate false ENRs

Table 2: Values/ranges of error D1

	Error D1	
Size of pipeline adjusted 't'	Lower limit	Upper limit
<90%	$Y\% * (100 - ('t' + B \text{ upper}))\%$	$(100 - \text{pipeline adjusted 't'})\%$
90% - 95%	0%	$(100 - \text{pipeline adjusted 't'})\%$
95% - 100%	0%	5%
100% - 105%	0%	5%]
105% - 110%	0%	$(100 - \text{pipeline adjusted 't'})\% + 10\%$
110% - 120%	0%	0%
120% and over	0%	0%

Where Y = proportion of the difference between the administrative data count of recipients and the FRS count of recipients.

Table 3: Values/ranges of error D2

	Error D2	
Size of pipeline adjusted 't'	Lower limit	Upper limit
<90%	0%	0%
90% - 95%	0%	$(\text{pipeline adjusted 't'} - 100)\% + 10\%$
95% - 100%	0%	5%
100% - 105%	0%	5%]
105% - 110%	0%	$(\text{pipeline adjusted 't'} - 100)\%$
110% - 120%	$(\text{pipeline adjusted 't'} - 100)\% - 10\%$	$(\text{pipeline adjusted 't'} - 100)\%$
120% and over	$(\text{pipeline adjusted 't'} - 100)\% - 10\%$	$(\text{pipeline adjusted 't'} - 100)\%$

Asymmetry of errors A and C

Earlier it was mentioned that in the absence of any evidence to the contrary we assume that errors A and C are symmetrical in size. This section describes the evidence we use to determine whether or not A and C are in fact asymmetrical in size.

The main analytical tool we use is a comparison of modelled entitlement to reported receipt for those benefit units reporting receipt on the FRS. We work out the proportion of cases we model as entitled to more than they report receiving – this is termed ‘over-modelling’. We also work out the proportion of cases we model as entitled to less than they report receiving – this is known as ‘under-modelling’. We assume that errors A and C are asymmetrical in size for any group where there is a greater than ten percentage points difference between ‘over-modelling’ and ‘under-modelling’. However we only adjust our assumptions for the upper and lower limits of A and C where the s statistic is above 10%, for it is only above this level that we believe asymmetry in the size of A and C will have a significant impact upon estimated take-up. When a group does satisfy the criteria for assuming errors A and C are asymmetrical we adjust the upper and lower limit assumptions for A in the following way. If the evidence suggests that error A is less likely to occur than error C, we take the ratio of ‘over-modelling’ to ‘under-modelling’ and multiply it by the upper and lower limits of error A. If the evidence suggests that error C is less likely to occur than error A, we take the ratio of ‘over-modelling’ to ‘under-modelling’ and scale-up the upper and lower limits of error A.

The need for judgement

From the discussion so far it is clear that setting plausible ranges for errors A to E is a complex exercise that involves analytical judgement because we have no objective way of measuring the size of the errors.

Additional assumptions required

Once the upper and lower limits are decided for each of the errors A to E, the team need to make some additional assumptions in order to calculate unambiguous corrected take-up figures.

Firstly we need to make an assumption about the level of true take-up in cases affected by error C. This is important because, if we assumed take-up was zero for these cases, it would imply a large number of cases were falsely classified as not entitled due to ‘under-modelling’ of entitlement. This would mean we were assuming a large downward bias in our baseline estimate of ENRs due to error C. If on the other hand we assumed take-up was 100% for these cases, it would imply that no cases were falsely classified as not-entitled due to ‘under-modelling’. This would mean we were assuming no downward bias in our estimate of ENRs due to error C. We label this additional assumption error ‘a’.

Secondly we need to make an assumption about the level of true take-up amongst cases affected by error A. This is important because, if we assumed take-up was zero for these cases, it would imply a large number of cases falsely classified as ENRs due to ‘over-modelling’ of entitlement. This would mean we were assuming a large upward bias in our baseline estimate of ENRs due to error A. If on the other hand we assumed take-up was 100% for these cases, (seems unlikely unless there were large amounts of fraud/mistakes) it would imply that there were no cases falsely classified as ENRs due to ‘over-modelling’. This would mean we were assuming no upward bias in our estimate of ENRs due to error A. We label this additional assumption error ‘b’.

Again, judgement is required when setting the levels of these take-up rates and in practice these assumptions are given upper and lower limits.

The final step is to bring all of these assumptions about errors and take-up rates in the presence of errors together in two combinations: one that gives us maximum take-up rate and one that gives us a minimum take-up rate. Table 4 summarises the appropriate combinations.

Table 4: Error combinations that yield the maximum and minimum limits for true take-up

Error	For minimum true take-up	For maximum true take-up
A	Lower	Upper
B	Lower	Upper
C	Lower	Upper
D1	Upper	Lower
D2	Lower	Upper
E	Upper	Lower
'a'	Lower	Upper
'b'	Upper	Lower

One of the things to note from table 4 is that we combine the upper limit for error A with the upper limit for error C when solving for maximum true take-up and the lower limit for both A and C when solving for minimum true take-up. This may not seem intuitive, given the preceding discussion. However, we make an additional assumption that these are the only plausible combinations of these errors, modelling error is either very likely (upper limits for A and C), or not very likely (lower limits for A and C).

An example

The following section explains how the above methodology was used to produce a range of true take-up of Housing Benefit by lone parents in 2002/2003. As with the guide to tables in the introduction this example is for Great Britain and is provided as guidance only and the figures incorporated have no bearing for Northern Ireland. Lone parent's take-up of Housing Benefit has been chosen as it is one of the more straightforward statistics to calculate, with relatively small potential for bias.

The initial step in estimating take-up is to collect the administrative data on the number of lone parent recipients and the average amount they receive. Next the Family Resources Survey (FRS) is analysed to give estimates of the number of entitled non-recipients (ENRs) and the average amount they leave unclaimed. We can then combine these figures to produce the baseline estimates of take-up. In 2002/2003 the baseline estimates for lone parent's take-up of Housing Benefit were as follows:

Administrative data	Family Resources Survey data
Recipients = 869,373	Entitled non-recipients = 73,911
Average weekly receipt = £59.17	Average weekly unclaimed = £38.20
	Non-entitled recipients = 38,330
	Recipients = 863,190
Baseline caseload take-up = $869,373 / (869,373 + 73,911) = 92\%$	
Baseline expenditure take-up = $(869,373 * £59.17) / (869,373 * £59.17 + 73,911 * £38.20) = 95\%$	

The next step is to assess the likely extent of the errors that might have distorted these baseline estimates. As explained earlier in this Appendix, this is done in part by examining the values of 's' and 't': where 's' is the proportion of grossed-up FRS recipients modelled as not entitled and 't' is the grossed-up number of FRS recipients divided by the count of recipients from the administrative data. For Housing Benefit of lone parents in 2002/2003, 's'=4.4% (38,330/863,190) and t=99.3% (863,190/869,373). In addition, the number of lone parents who had submitted a claim for Housing Benefit, were awaiting the outcome of this claim and appeared to be entitled at the time of their FRS interview (pipeline cases), represented 2.6% of the administrative data count of lone parent recipients.

It is now possible to assess the extent of errors A to E. Errors A and C are assumed to be symmetrical in size for lone parents since 's' is well below 10%. So the general assumptions of a lower limit of s/3% and an upper limit of s% can be followed for both A and C. Since 's' is only 4.4% this is going to give a small adjustment to the baseline estimate for modelling error.

The value of 's' provides clues to the size of error E. We need to make a judgement about the extent to which mistakes and fraud can lead to someone actually being not entitled at all when in receipt. An analysis of the percentage of FRS recipients 'over-modelled' and the percentage 'under-modelled' helps here. In 2002/2003 we 'over-modelled' 20% of lone parent recipients of Housing Benefit (remember this means we modelled them to be entitled to more than they were actually receiving) and we 'under-modelled' 12%. But 's' tells us that despite 'under-modelling' 12% of lone parent recipients of Housing Benefit, we only modelled slightly over 4% of them to be not entitled at all. This suggests that the proportion of recipients likely to be not entitled to benefit at all is quite low. So we make the judgement that in case of lone parents the upper and lower limits for error E should be set at the same levels as those for errors A and C.

The value of 't' gives us clues about the size of errors B and D, the under-reporting and grossing errors respectively. Tables 1-3 presented earlier on in the chapter show the general approach to setting the levels of errors B and D. For 2002/2003 there were a number of lone parents who had put in claims for Housing Benefit at the time of their FRS interview and were awaiting the outcome of those claims, known as pipeline cases, which amounted to 2.6% of the administrative data count. As the 't' statistic lies between 95% and 100%, we assume that for under-reporting error, error B, the bottom end of the error range emanates from pipeline cases, whilst $((X \text{ factor} * (100 - t)\%) + \text{pipeline}\%)$ calculates the top end. The X factor is the percentage of under-reporting cases that could generate false ENRs. As the 't' stat lies between 95% and 100%, we must consider both the possibility of under-grossing and over-grossing of ENRs.

Table 2 shows the general rule we use for setting the upper and lower limits of error D1 (undergrossing). We assume that the lowest plausible assumption for error D1 is zero and that all of the difference between the FRS estimate of recipients and the administrative count of recipients is due to under-reporting. For the upper limit we assume that the error for under-grossing can be no larger than 5%, so the upper limit is set at 5%. There could be a chance that our initial count of ENRs has been over-grossed; we assume a maximum limit, given the size of t statistic, of 5%.

To summarise, the upper and lower limits of errors A to E for lone parents of Housing Benefit are:

	Lower limit	Upper limit
Error A	1.5%	4.4%
Error B	2.6%	2.7%
Error C	1.5%	4.4%
Error D1	0%	5%
Error D2	0%	5%
Error E	1.5%	4.4%

The final step is to set levels for take-up by those affected by error A ('b') and take-up by those affected by error C ('a'). 'a' is set relative to the assumed level of true take-up and 'b' is set relative to 'a' such that 'b' is always smaller than 'a'. This is because we expect take-up by those truly notentitled but modelled as entitled ('b') will be lower than take-up by those truly entitled but modelled as not entitled ('a'). We set different levels for these assumptions depending upon whether we are calculating the upper end of the true take-up range or the lower end of the true take-up range.

With all the assumptions set it is then possible to calculate an adjusted caseload take-up rate using any combination of the assumptions together with the baseline take-up rate. Table 4 summarises the combinations of assumptions that give the lowest plausible estimate of true take-up and the highest plausible estimate of true take-up.

To produce the highest plausible estimate of true take-up, errors A, B, C and D2 are set to their upper limits; errors D1 and E are set to their lower limits; 'a' is set to its lower limit and 'b' to its upper limit. In practice this means setting A and C errors at 4.4%, error B at 2.7%, error D1 at 0%, error D2 at 5%, error E at 1.5%, 'a' at 95.7% and 'b' at 5% to give a plausible upper limit to take-up of 99%.

To produce the lowest plausible estimate of true take-up, errors A, B, C and D2 are set to their lower limits; errors D1 and E are set to their upper limits; 'a' is set to its upper limit and 'b' to its lower limit. In practice this means setting A and C errors at 1.5%, error B at 2.6%, error D1 at 5%, error D2 at 0%, error E at 4.4%, 'a' at 72% and 'b' at 40% to give a plausible lower limit to take-up of 94%.

Finally a range of true expenditure take-up estimates is calculated using the estimates of average claimed and unclaimed amounts, combined with the upper and lower bounds of true caseload take-up. This means the lower bound for true expenditure take-up is $94 * \text{£}59.17 / ((94 * \text{£}59.17) + (6 * \text{£}38.20))$ i.e. 96%; and the upper bound is $99 * \text{£}59.17 / ((99 * \text{£}59.17) + (1 * \text{£}38.20))$ i.e. 99%.

So the range of true caseload take-up of Housing Benefit for lone parents in 2002/2003 (before allowance for the effects of sampling error) is from 94% to 99%.

The relative importance of different assumptions

Because of interactions between the errors it is not possible to fully attribute each error with its part in the overall adjustment of the take-up rate from the baseline estimate to the estimate of true take-up. However it is possible to make a number of general points.

Errors A and C have their greatest impact on the estimated upper limit of true take-up. This is down to the fact that we fully expect take-up by those falsely estimated to be entitled to benefit to be lower than take-up by those falsely estimated to be not entitled to benefit (hence our assumption for 'a' is always larger than our assumption for 'b'). So, despite the fact that in most cases our assumptions about the overall chances of A and C occurring are symmetrical, we assume that error A has the greatest effect on the baseline take-up estimate. This difference is accentuated for higher levels of A and C, and it is these higher levels that we assume when estimating the upper limit for true take-up.

Error B also has its greatest impact on the estimated upper limit of true take-up. This is simply because error B inflates the baseline estimate of entitled non-recipients above its true level so the appropriate correction for this is to adjust the number of ENRs downwards when calculating true take-up. The larger the assumption we use for error B, the larger the downward adjustment to the ENR count we will make and hence the higher we will push our estimate of true take-up.

Error D has much less impact on the results. A given percentage error in grossing-up the baseline estimate of ENRs will have its greatest impact when the ENR estimate is relatively large, i.e. when true take-up is relatively low. So the greatest effect of error D will be on the lower limit of true take-up. In the example described above, the assumptions for error D have little impact on the final estimates because the baseline estimate of take-up is very high.

Assumptions on the receipt of benefit by non-entitled people have little impact overall since error E only comes into play indirectly in combination with the other errors. For example error E will reduce the impact of error A on the baseline estimate of take-up since those who receive benefit when they are truly not entitled cannot be falsely added to the estimate of entitled non-recipients.

Income Related Benefits - Estimates of Take-Up

Northern Ireland

2002-04

This report can be found on:

www.dsdni.gov.uk

ISBN 1-904 105-24-6
ISSN 1750-0834 (Print)
ISSN 1750-0842 (Online)