

Annex C: Modelling Welfare Benefits

1. Which Welfare Benefits have been Included

We have included all welfare benefits that are available in Scotland.

2. Forecasts

- We have used Department for Work and Pension expenditure forecasts for benefits where available - Job Seekers Allowance (JSA), Employment and Support Allowance (ESA), Income Support (IS) and Housing Benefit (HB). We've taken the DWP forecast for Great Britain and then applied the historic Scottish share to this expenditure figure. Claimant counts are taken from Stat-Xplore.
- Scottish Fiscal Commission forecasts have been used for total expenditure on Discretionary Housing Payments (DHPs), Carer's Allowance and the Scottish Welfare Fund (SWF). Administrative data is used to estimate the claimant count.
- Administrative data from DWP's Stat-Xplore system has been used to generate caseload and expenditure forecasts for Disability Living Allowance (DLA), Pension credit, State Pension, Bereavement Allowance/Widowed Parent's Allowance/Bereavement Benefit, Severe Disablement Allowance & Incapacity Benefit, Attendance Allowance, Universal Credit (UC) and Personal Independence Payments (PIP).
- For all other benefits we have made our own expenditure and caseload forecasts using available data.

3. Methodology

We have adopted four broad methodologies and these are summarised in the table below.

Benefit Type	Solution	Applies to:
Benefits where the existing caseload in the survey is higher than the 2019/20 forecast	<p>Randomly reduce caseload in survey to target caseload.</p> <p>A random number generated is used for this, which takes the distribution uniform (0,1). If we only require 90% of cases to reach the target caseload, we choose all records where the random number is less than or equal to 0.9.</p> <p>Adjust benefit amount in each year for inflation, to put them all at the same price level.</p> <p>Scale benefit amount to match 2019/20 expenditure.</p>	<ul style="list-style-type: none"> • Council Tax Reduction • Income Support • Job Seekers Allowance • Pension Credit • Child Benefit • State Pension • Winter Fuel Payment • Incapacity Benefit & Severe Disablement Allowance • Disability Living Allowance
Benefits where the existing caseload in the survey is about the same as the 2019/20 forecast	<p>Use caseload as is in survey.</p> <p>Adjust benefit amount in each year for inflation, to put them all at the same price level.</p> <p>Scale benefit amount to match 2019/20 expenditure.</p>	<ul style="list-style-type: none"> • Tax Credits • Maternity Allowance • Bereavement Benefit • Industrial Injuries Disablement Benefit • Funeral Expense Assistance

Benefit Type	Solution	Applies to:
Benefits where the existing caseload in the survey is lower than the 2019/20 forecast	<p>Use logistic regression or rules to predict records which additional records should be on this benefit.</p> <p>If benefit award is complex, use admin data to assign average benefit amount by relevant groups (e.g. age/gender/ hours of care).</p> <p>Scale benefit amount to match 2019/20 expenditure.</p>	<ul style="list-style-type: none"> • Carer's Allowance • Attendance Allowance • Housing Benefit • Employment and Support Allowance • Free TV Licences
Benefits in transition	<p>Model legacy benefits and new benefit together to predict who should be on either benefit.</p> <p>Assign sufficient numbers to the new benefit, ensuring predictions match demographic information in admin data. E.g. correct numbers by age group/ level of care or mobility award.</p>	<ul style="list-style-type: none"> • Personal Independence Payment • Universal Credit
Benefits not reported in the survey	<p>Use rules to estimate caseload.</p> <p>If benefit award is complex, use admin data to assign average expenditure by relevant groups.</p> <p>Scale benefit amount to match 2019/20 expenditure.</p>	<ul style="list-style-type: none"> • Discretionary Housing Payments • Statutory Maternity Pay • Best Start Grant • Carer's Allowance Supplement • Cold weather payments • Scottish Welfare Fund

4. Values in the Report

After running ten simulations of the model, the average values for welfare benefits for 2019/20 are:

Benefit	Caseload	Paid to	Annual Amount (£)	% of Total
State Pension	998,617	Individuals	8,200,801,192	42.5%
Employment and Support Allowance	228,474	Individuals	1,585,566,824	8.2%
Housing Benefit	350,886	Households	1,477,275,870	7.7%
Universal Credit	189,482	Households	1,234,466,494	6.4%
Child Tax Credit	251,577	Individuals	1,084,153,834	5.6%
Child Benefit	549,097	Individuals	850,000,000	4.4%
Personal Independence Payment (Daily Living)	219,635	Individuals	831,952,960	4.3%
DLA (self-care)	158,764	Individuals	491,430,928	2.5%
Attendance Allowance	124,817	Individuals	488,702,943	2.5%
Pension credit	149,764	Individuals	423,149,928	2.2%
Personal Independence Payment (Mobility)	160,216	Individuals	374,766,652	1.9%
DLA (mobility)	154,850	Individuals	370,123,343	1.9%
Council Tax Reduction	473,169	Benefit Units	352,000,000	1.8%
Working Tax Credit	136,930	Individuals	315,846,166	1.6%
Carer's Allowance	77,538	Individuals	266,715,863	1.4%
Statutory Maternity Pay	30,847	Individuals	202,572,383	1.1%
Winter Fuel Payments	1,000,422	Individuals	170,195,852	0.9%
Income Support	35,720	Individuals	140,967,473	0.7%
Jobseeker's Allowance	22,139	Individuals	88,920,691	0.5%
Industrial Injury Disablement Benefit	19,042	Individuals	83,000,000	0.4%
Discretionary Housing Payments	64,679	Households	63,200,000	0.3%
Carer's Allowance Supplement	77,538	Individuals	35,078,277	0.2%
Maternity Allowance	1,786	Individuals	34,000,000	0.2%
Scottish Welfare Fund	51,536	Benefit Units	33,538,220	0.2%
Best Start Grant	74,908	Individuals	20,947,333	0.1%

Benefit	Caseload	Paid to	Annual Amount (£)	% of Total
Bereavement Allowance/Widowed Parent's Allowance/Bereavement	2,726	Individuals	17,244,271	0.1%
SDA & Incapacity Benefit	7,726	Individuals	17,020,425	0.1%
Free TV Licenses	65,530	Households	10,117,755	0.1%
Cold Weather Payment	378,555	Individuals	9,463,870	0.0%
Funeral Expenses Assistance	2,619	Individuals	115,385	0.0%
Total			19,273,334,932	100.0%

5. Data Sources

DWP Outturn and Forecasts and DWP Benefit expenditure by country and region: <https://www.gov.uk/government/publications/benefit-expenditure-and-caseload-tables-2019>

DWP Stat-Xplore: <https://stat-xplore.dwp.gov.uk/webapi/jsf/login.xhtml>

HMRC – Tax Credits Expenditure: <https://www.gov.uk/government/statistics/disaggregation-of-hmrc-tax-receipts>

HMRC – Tax Credits Caseload: [Personal tax credits: finalised award statistics - small area data \(LSOA and Data Zone\) ...](#)

HMRC –Child Benefit Expenditure: <https://www.gov.uk/government/statistics/disaggregation-of-hmrc-tax-receipts>

HMRC –Child Benefit Caseload (Table 1): [Child Benefit Statistics, Geographical Analysis](#)

Scottish Welfare Fund: <https://www.webarchive.org.uk/wayback/archive/20150218135759/http://www.gov.scot/Topics/Statistics/Browse/Social-Welfare/swf>

Council Tax Reduction: <https://www2.gov.scot/Topics/Statistics/Browse/Local-Government-Finance/CTR>

Discretionary Housing Payments: <https://www.webarchive.org.uk/wayback/archive/20150218135752/http://www.gov.scot/Topics/Statistics/Browse/Social-Welfare/dhp>

Maternity Allowance March to May 2019: <https://www.gov.uk/government/collections/maternity-allowance-quarterly-statistics>

Winter Fuel Payments 2018-19: <https://www.gov.uk/government/collections/winter-fuel-payments-caseload-and-household-figures>

Cold Weather Payments 2019-20: <https://www.gov.uk/government/collections/social-fund-cold-weather-payments>

IIDB – Industrial Injuries Disablement Benefit (Table 2.2): [Industrial Injuries Disablement Benefit: quarterly statistics - GOV.UK \(www.gov.uk\)](#)