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Results Write Up: Projection of future pensioner household income, analysis based upon the Wealth and Assets Survey dataset

Analysis sponsored by the B&CE, providers of The People's Pension

About this paper

This write up details of analysis undertaken for B&CE providers of The People's Pension. It includes:

Background to the analysis
Modelling approach taken
Observations and commentary upon the results
Conclusions

Full results of the modelling are available in a separate Appendix.

Tim Pike, Head of Modelling at the Pensions Policy Institute (PPI), carried out the modelling and produced this write up in June 2022.

Section 1: Background to the analysis

Introduction

A conception of the amount of income that individuals need in order to afford different standards of living in retirement should be at the heart of all pension policy decisions. This conception is essential knowledge for discussions and decisions about planning for, and using income in, retirement.

It is important to understand how the population is on track to be able to afford these standards of living according to the assets and pension savings they have accumulated. This helps to develop policy that targets at-risk groups and ensure that interventions occur where they will have the greatest beneficial impact.

Research Question:

The intention of the analysis is to provide quantitative evidence to support research into the question:

What are the attributes of the key groups of working-age people based upon their projected income in retirement?

Income targets

There are two traditional approaches to benchmarking retirement incomes which stem from these different perspectives:

1. Fixed income targets

These have their origins in the State underpin and avoidance of deprivation but have developed into 'basket of goods' approaches (the cost of a basket of goods and services required to meet a certain level of need or lifestyle standard). This method is used by the Joseph Rowntree Foundation (JRF) in their Minimum Income Standard (MIS) and by the Pensions and Lifetime Savings Association (PLSA) to produce their 'Minimum', 'Moderate' and 'Comfortable' standards. These 'basket of goods' approaches produce living standard targets in terms of the fixed incomes required to achieve these levels, regardless of working-life income levels.

These targets are adjusted to allow for household circumstances, including housing costs and household composition, which significantly impact per person expenditure within a household.

2. Proportional income targets

These focus on assessing subjective individual comfort. This approach has its origins in the view of the engaged employer and is embedded in the design of final salary pension arrangements. The Pensions Commission used this approach to make its adequacy assessments, which produced targets in the form of 'replacement rates' - the proportion by which retirement income replaces that immediately before retirement. A target replacement rate is one which allows people to replicate working-life living standards in retirement.

These replacement rates depend upon income prior to retirement: it is generally assumed that those with the lowest incomes prior to retirement will need to maintain this income level into

retirement; while those with higher incomes may not need to maintain these levels in retirement, as their expenditure will decrease as a result of circumstances. These include:

paying off a mortgage, resulting in a significant reduction in living costs;
reduction in potentially substantial travel costs associated with stopping work;
reduced discretionary spending as expenditure reduces with older ages.
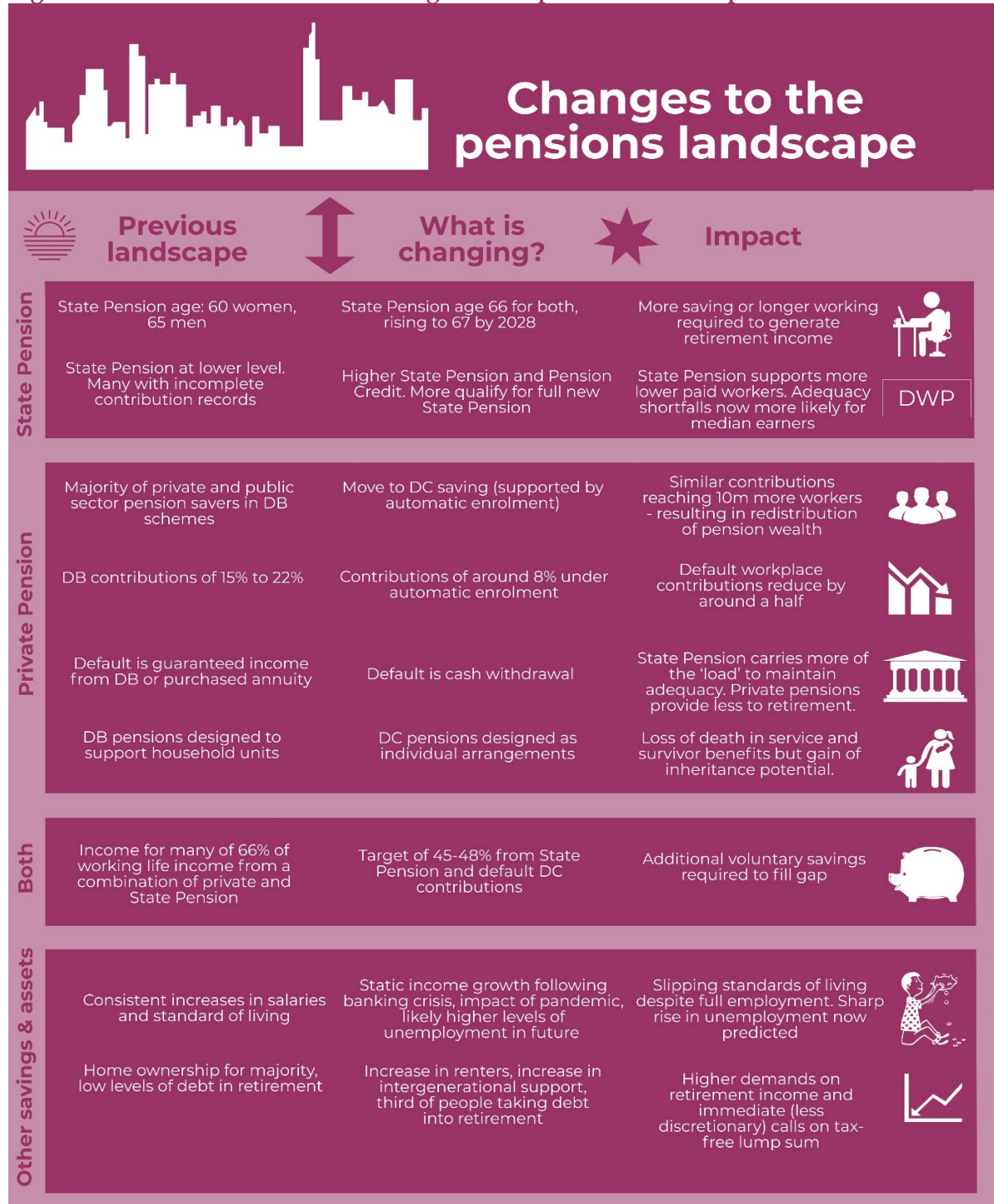
Adequacy measures in the current pensions landscape

Current understanding of adequacy is framed by the history of the UK State and private pensions systems, and the consensus forged following the Pensions Commission report in 2004. The key policies that set the course of pension reform for the first two decades of the 21st century were:

the reform of the State Pension into a more generous single-tier, flat-rate new State Pension (nSP) but with later access - with State Pension age (SPa) for both men and women moving up to age 66 and age 67, and
the introduction of automatic enrolment into workplace pension schemes at a minimum contribution level of 8%.

In more than 15 years since the Pensions Commission published their reports, there have been significant changes to the pensions landscape, as set out in Figure 1.1 – some instigated directly by pensions reform but many not. The overall impact of 21st century trends so far could be characterised more as redistributive of, rather than absolute growth in, pension provision.

Figure 1.1: an overview of recent changes to the pensions landscape

Changes to the pensions landscape

	Previous landscape	What is changing?	Impact
State Pension	State Pension age: 60 women, 65 men	State Pension age 66 for both, rising to 67 by 2028	More saving or longer working required to generate retirement income
	State Pension at lower level. Many with incomplete contribution records	Higher State Pension and Pension Credit. More qualify for full new State Pension	State Pension supports more lower paid workers. Adequacy shortfalls now more likely for median earners
Private Pension	Majority of private and public sector pension savers in DB schemes	Move to DC saving (supported by automatic enrolment)	Similar contributions reaching 10m more workers - resulting in redistribution of pension wealth
	DB contributions of 15% to 22%	Contributions of around 8% under automatic enrolment	Default workplace contributions reduce by around a half
	Default is guaranteed income from DB or purchased annuity	Default is cash withdrawal	State Pension carries more of the 'load' to maintain adequacy. Private pensions provide less to retirement.
	DB pensions designed to support household units	DC pensions designed as individual arrangements	Loss of death in service and survivor benefits but gain of inheritance potential.
Both	Income for many of 66% of working life income from a combination of private and State Pension	Target of 45-48% from State Pension and default DC contributions	Additional voluntary savings required to fill gap
Other savings & assets	Consistent increases in salaries and standard of living	Static income growth following banking crisis, impact of pandemic, likely higher levels of unemployment in future	Slipping standards of living despite full employment. Sharp rise in unemployment now predicted
	Home ownership for majority, low levels of debt in retirement	Increase in renters, increase in intergenerational support, third of people taking debt into retirement	Higher demands on retirement income and immediate (less discretionary) calls on tax-free lump sum

Two key issues that arise from these changes are:

the continuing gap between the default level of automatically enrolled contributions and the level required to achieve the Pensions Commission's definition of adequacy, and

the fundamental change in the use of pensions assets consequent to the introduction of the pension flexibilities in 2015.

These points combine with the underlying change to a Defined Contribution (DC) pensions architecture, which creates individual pension pots with more risks for individuals to manage, the overall pressure on living standards since the banking crisis, and now with COVID-19. These changes also mean that people will not receive the same guaranteed future income stream level in retirement, as fewer people will be receiving the majority of retirement income from a combination of Defined Benefit (DB) and State Pension entitlements. These changes reflect both the changes in income types and in the use of income, which mean that an adequacy approach which focuses on developing both an income stream and reserve capital will better meet the needs of future pensioners.

People are experiencing increasing additional demands on retirement income

A number of social and policy changes are increasing the demands made on assets originally saved to provide a retirement income. These include:

   a widening gap for some between leaving work and receiving the State Pension,
   paying for rent in retirement as fewer expect to retire as owner-occupiers,
   paying off debts carried into retirement, and
   supporting other family members with regular financial payments, housing deposits and loans.

Section 2: Modelling approach

Data

The model projects to retirement the microdata pertaining to working-age individuals collected in the Wealth and Assets Survey (WAS) data.[1] The number of households sampled in wave six was approximately 16,000 (reduced due to the move to financial year reporting). This includes data for over 19,000 individuals aged 25 to 64 years old, weighted to be representative of the population of Great Britain.

For each relevant individual the PPI have projected their retirement income accrual to State Pension age (SPa), considering the following individual circumstances.

Savings to date;
Current saving situation;
Housing tenure;
Projected employment trajectory, including earnings levels;
Future savings accrual.

The working-age trajectory includes:

Earnings at a consistent level within age-dependent earnings distribution. Individuals are assumed to earn income at a consistent level relative to the distribution of income by ages as a proportion of median earnings. This allows for promotional increases in salary and any propensity to reduce working hours.

Future working allows for periods out of work based upon a future number of expected years in the labour force by age, derived from analysis of the Labour Force Survey.[2]

Saving behaviour and pension accrual

Pension saving

Defined Contribution (DC) pension schemes

Employees who are currently making contributions to a DC workplace pension scheme are assumed to continue making contributions while in employment, with a contribution rate of at least the legislated minimum under automatic enrolment. This follows the working-age trajectory of income and future working as described above. Workers who are not members of workplace pension schemes, primarily the self-employed and those who have opted out, are not assumed to make contributions to a workplace pension.

DC assets are projected to achieve investment returns of 1½% above increases in Average Weekly Earnings.

Defined Benefit (DB) pension schemes

Employees who are members of DB pension schemes are assumed to continue to accrue benefits to retirement in a scheme equivalent to their current membership, subject to their working-age trajectory.

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[1] ONS (2022)
[2] Mitchell and Guled (no date). NISRA and ONS (2022)

Housing assets and housing benefit

Homeowners currently paying mortgages: Mortgages are assumed to be paid off by retirement, future generations are assumed to have attained the same extent of home ownership as current generations by retirement (allowing for later transitions for transitioning from renting to ownership).

Where households rent in retirement: Households may be eligible for Housing Benefit. This means-tested benefit effectively reduces the need to support housing costs from other income sources.

Formal financial assets

Formal financial assets are expected to achieve investment returns consistent with DC pension savings.

Retirement behaviour

People are projected to retire at SPa, access pension savings and claim the new State Pension (nSP) and other applicable benefits.

> Prior to SPa, pension savings are untouched as households are assumed to be able to finance until SPa without needing to access pension savings.
> After retirement, there is assumed to be no earned income.

Income derived from capital sources, such as DC pension savings, formal financial assets or housing equity, is taken at an initial amount of 3.5% of the starting capital. This allows for the amount to be increased with inflation throughout retirement to protect against the impact of price inflation. The chance of the capital having been exhausted prior to death using this approach is approximately 5%[3] and, as such, can be regarded a sustainable rate of income drawdown of capital.

The income immediately after retirement is used to assess retirement income against measures of adequacy.

Assessment of income level

Retirement income is calculated at three levels for each household:

- **'Standard income'** is defined as the income from the State Pension, DB entitlement and DC savings, but omitting the value of the tax-free lump sum taken from pension savings at retirement.
- **'Additional capital'** includes all items in standard income, as well as income generated from pension lump sums and financial assets.
- **'Housing capital'** includes all items in additional capital, as well as income generated through releasing equity from housing wealth.

Assessment of retirement outcomes

Each projected individual will be measured against income levels. This will include both fixed income approaches and proportional income targets.

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[3] Wilkinson, L. et al. Pensions Policy Institute (2018)

Pensions & Lifetime Savings Association (PLSA) retirement living standards

The retirement living standards produced by the PLSA are based on the Minimum Income Standards (MIS) research supported by the Joseph Rowntree Foundation (JRF) and carried out by the Centre for Research in Social Policy (CRSP) at Loughborough University. It determines an annual target income under three different retirement living standards (Minimum, Moderate and Comfortable) for those living in London and outside London, and for single person and couple households [Table 2.1].

Table 2.1: PLSA Retirement Living Standards net household income levels[4]:

PLSA retirement living standards	Single households		Couple households	
	Outside London	London	Outside London	London
Minimum	£10,900	£13,200	£16,700	£21,100
Moderate	£20,800	£24,500	£30,600	£36,200
Comfortable	£33,600	£36,700	£49,700	£51,500

Figures have been uprated using earnings inflation.

Pensions Commission Target Replacement Rates (TRRs)

This measure looks at whether an individual can achieve a standard of living comparable to the standard of living the individual had before retirement. This approach was used by the Pensions Commission in 2005. It defines a proportion of working age income that is necessary in retirement to maintain living standards after retirement [Table 2.2].

Table 2.2: Pension Commission TRRs[5]:

Pre-retirement gross earnings (2004)	Pre-retirement gross earnings (2021)	Replacement rate threshold
< £9,500	< £14,500	80%
£9,500 to £17,499	£14,500 to £26,799	70%
£17,500 to £24,999	£26,800 to £38,199	67%
£25,000 to £39,999	£38,200 to £61,299	60%
£40,000 or more	£61,300 or more	50%

[4] PLSA (2019)
[5] Pensions Commission (2005)

These income levels are applicable to individual incomes. To apply these to multiple occupancy households, the household income is first equivalised and then comparison to the threshold is made.

Pre-retirement gross earning thresholds have been uprated using earnings inflation.

Each of the adequacy measures were applied to individuals in the WAS round 7 dataset, giving a proportion of the population meeting each target level.

Section 3: Observations and commentary upon the results

Introduction

Results have been calculated for the working-age population as a whole and for households currently contributing to Defined Contribution (DC) pensions. This illustrates the landscape for the population at large, as well as households which are most easily targeted by policy to increase savings in workplace and personal pensions. Households currently making DC pension contributions are the most flexible in their savings arrangements and under closest scrutiny of current policy.

The results presented in this paper represent a fraction of the complete projection results. Full results of all the modelling are available in the separate Appendix here.

Key results

With current observed saving rates, around half (49%) of households are projected to meet the Target Replacement Rate (TRR) as prescribed by the Pensions Commission. This assumes that households maintain savings rates and that they draw upon their savings in retirement in a sustainable manner. However, if households do not spend their entire pension savings on income in retirement and do not put the value of their tax-free lump sum towards income, an additional 10% of households will not attain their TRR [Table 3.1].

Around one in 10 households are on track to attain the highest level of the Pensions & Lifetime Savings Association's (PLSA) Retirement Living Standards (RLS), with the inclusion of housing capital, but nearly one in four are not even on course to meet the lowest level. For those who have the ingredients of retirement income privilege they will have substantially more financial comfort in retirement.

Table 3.1: The proportion of working-age households projected to miss retirement income thresholds

Retirement income threshold	Proportion of households below the income threshold		
	Standard Income	Additional Capital	With Housing Equity
PLSA RLS Minimum	33%	28%	23%
PLSA RLS Moderate	82%	72%	64%
PLSA RLS Comfortable	96%	92%	89%
Pensions Commission Target Replacement Rate	61%	51%	41%

PPI modelling, extracted from Appendix Table 1.

Households currently making DC pension contributions are the most flexible in their savings arrangements and under closest scrutiny of current policy. The proportion of savers on track to meet their TRR is below the national average, with 62% of households projected to miss this target. This is due to the higher target incomes, as DC savers are normally employees in workplace schemes with generally higher working-life incomes [Table 3.1].

However, their incomes in retirement are generally higher than the national averages and more households are projected to meet the PLSA RLS at both the Minimum and Comfortable level. There is little impact to the number of households projected to attain the Comfortable level of the PLSA RLS, as the savings rates needed to achieve this are above most DC savings rates.

Table 3.2: The proportion of working-age households contributing to DC pensions projected to miss retirement income thresholds

Retirement income threshold	Proportion of households below the income threshold		
	Standard Income	Additional Capital	With Housing Equity
PLSA RLS Minimum	24%	19%	17%
PLSA RLS Moderate	81%	65%	56%
PLSA RLS Comfortable	97%	92%	88%
Pensions Commission Target Replacement Rate	76%	62%	50%

PPI modelling, extracted from Appendix Table 11.

Segmentation

Households have been split by descriptive variables.

Generation

The population is split into generations based upon the age of the Household Reference Person (HRP):

Millennials, born 1980-1995
Generation X, born 1965-1979
Baby Boomers, born up to 1964

The changing pension landscape has resulted in more savers in DC schemes from younger ages. The savings rates currently observed in DC schemes are not generally high enough to ensure TRRs are met. However, there is a trend to an increasing proportion of DC savers attaining TRRs as a result of an increased savings period, with 5% more Millennial households than Generation X households making DC savings on track to attain their TRR [Table 3.3].

Generation X is impacted by a savings gap resulting from falling between the reduction of Defined Benefit (DB) pension savings and the increase in DC saving with an adequate saving period before retirement.

Table 3.3: The proportion of working-age households contributing to DC pensions projected to miss target replacement rates, by generation.

Generation	Proportion of DC saving households attaining Pensions Commission TRRs using income from additional capital.
Millennials	38%
Generation X	33%
Baby Boomers	48%

PPI modelling, extracted from Appendix Tables 31, 51, 71.

Household composition

Results are split by projected household composition at retirement:

Couple pensioners
Single pensioners
  ➢ Split by gender - men and women

The proportion of households attaining PLSA RLS levels is higher for couples than singles. This highlights the advantage of shared household costs, which is reflected in targets for couples that are lower than twice the target for singles [Table 3.4].

However, the results for TRRs conversely show better results for single pensioners who are more likely to have had a lower income at working ages, resulting in a lower target income - a greater proportion of which will be met from the State Pension. This is illustrated by the smaller net household income gaps for singles than couples [Appendix Table 9].

Table 3.4: The proportion of working-age households projected to miss retirement income thresholds by household status.

Retirement income threshold	Proportion of households below the income threshold using income from additional capital.	
	Couples	Singles
PLSA RLS Minimum	8%	54%
PLSA RLS Moderate	60%	87%
PLSA RLS Comfortable	88%	96%

Pensions Commission Target Replacement Rate	56%	43%

PPI modelling, extracted from Appendix Tables 3, 5, 7, 9.

Current economic activity of the household

Results are split in two manners:

1. The current economic activity of the household, considering the number of householders in employment (whether this is as an employee or self-employed)
2. The current economic activity of the HRP, including reasons of economic inactivity

Households with employment income make greater amounts of household savings, increasing their chances of meeting fixed income targets. However, where households do not have a source of earnings - with greater State benefit dependency as a result of issues such as unemployment or long-term sickness - their income is more likely to be maintained, as pensioner benefits are typically more generous than working-age benefits. [Appendix Tables 3, 5, 7, 9].

Relative level of household income

Results are split by the equivalised income of the household. Household income is equivalised using 'before housing costs' factors of 1.5 for two-person households. This means, for example, a one-person household with a gross household income of £40,000 before housing costs is considered equivalent to a two-person household with a gross household income, before housing costs, of £60,000.

Using this equivalised household income, the population has been divided into thirds and fifths.

Similar to economic activity, which is the primary driver of household income, higher income households are more likely to attain fixed targets in retirement - however, they are less likely to attain a TRR. For those on the lowest incomes (the bottom quintile of household incomes), only 7% are projected to miss their TRR - primarily due to the State support they will receive in retirement. [Appendix Tables 3, 5, 7, 9].

When restricting the analysis to households currently making DC savings, it is notable that, for the lowest income quintile, the proportion attaining their TRR is similar to the minimum PLSA RLS, while for the highest income quintile the proportion attaining their TRR is similar to the Comfortable PLSA RLS. The results illustrate that for those on the highest incomes, with typically the highest DC contribution amount, the savings rates observed are inadequate to attain target income levels that maintain income standards - and that they are still likely to miss out on the most comfortable living standards [Table 3.5].

Table 3.5: The proportion of working-age households contributing to DC pensions projected to miss target replacement rates, for those with the highest and lowest incomes.

Retirement income threshold	Proportion of households making DC savings below the income thresholds using income from additional capital.

	Lowest Income Quintile	Highest Income Quintile
PLSA RLS Minimum	38%	3%
PLSA RLS Moderate	87%	33%
PLSA RLS Comfortable	98%	80%
Pensions Commission Target Replacement Rate	37%	82%

PPI modelling, extracted from Appendix Tables 13, 15, 17, 19.

Housing tenure

Results are split between projected owner-occupiers and those in rented accommodation at retirement, divided between London and outside of London to correspond to the geographical split within the PLSA's RLS.

Owing to the treatment of rental costs in the PLSA RLS, that any rent is in addition to the target income level, it becomes significantly more challenging to meet the living standards while renting (39% of owner-occupier households compared to 3% of renters are projected to meet the Moderate PLSA RLS).

For those living in London, a typical observed private market rent of around £10,000 per month for a couple would necessitate additional pension savings of around £270,000 to meet this ongoing cost of renting. Homeowners, however, are able to release a proportion of the value of their home through mechanisms such as downsizing, moving to less expensive regions, or through financial products such as equity release - giving homeowners recourse to additional income. [Appendix Tables 3, 5, 7, 9].

Geography

Results are split by country and regions within England. This exposes the geographical spread of wealth including in house values which may be accessed to fund retirement.

However, areas where there is greater wealth are also associated with higher working-age incomes. The net result is that higher proportions of households are projected to meet a TRR in the less affluent regions of the UK, where State support through the new State Pension (nSP) will meet a greater proportion of their target income. [Appendix Tables 3, 5, 7, 9].

DB accrual

Levels of projected household DB income in retirement are used to identify those households which may meet income targets primarily using DB accruals, rather than DC pension savings – which are currently under a greater degree of scrutiny by policy makers.

Without a substantial amount of accrued DB benefit, the proportion of individuals attaining the highest income levels in retirement is limited. The gap to be made up by DC savings is typically too great for the DC pension contribution rates currently observed.

[Appendix Tables 3, 5, 7, 9].

Section 4: Conclusions

With around half of future pensioners not on track to maintain their living standards from working life based upon their Target Replacement Rate (TRR), there is much focus on the income gap that is developing.

More Defined Contribution (DC) pension savers from the Millennial generation will attain fixed income standards in retirement than their predecessors, Generation X, on account of having made more lifetime contributions over a greater period. This is the consequence of the implementation of automatic enrolment. However, the contribution rates observed in the population are generally too low to allow older workers to make up any savings gap they may have already accrued.

State support in the form of the new State Pension (nSP) helps maintain living standards for those on lower incomes. The nSP makes up a higher proportion of target replacement income, leaving a smaller income gap that needs to be met from private saving.

Housing benefit does not give sufficient help in retirement to many projected renters. To achieve even the Minimum Pensions & Lifetime Savings Association (PLSA) retirement living standard (RLS), alongside paying private market rates of rent, necessitates savings and income at such a level that means-tested Housing Benefit will have been tapered out. This is a concern, as there may be a greater number of future renters in retirement than currently experienced, due to the cost of housing and pressures on saving that has led to increases in the age of first-time buyers and increasing numbers of renters at all age groups.

While Defined Benefit (DB) pensions will play a reduced role in future pensioner incomes as their coverage decreases, they are still a key element for households wishing to achieve the most financially comfortable retirements.

Appendix

Additional results

Full results of all the modelling are available in the separate Appendix here.

Projection Assumptions

Key assumptions

Except where explicitly stated in the report, the key assumptions used in the report are detailed below.

The pensions system

The pension system modelled is as currently legislated. The triple lock is assumed to be maintained. It is assumed that automatic enrolment minimum contribution levels continue to be based upon qualifying earnings, with the recommendations from the 2017 Automatic Enrolment Review being implemented in 2027.

Other economic assumptions

Other economic assumptions are taken from the Office for Budget Responsibility's (OBR) Economic and Fiscal Outlook (EFO)[6] (for short-term assumptions) and Fiscal Sustainability Report[7] (for long-term assumptions). Investment returns are assumed to be 1.5% above the rate of increase in average earnings.

Limitations of analysis

Care should be taken when interpreting the modelling results used in this report. In particular, individuals are not considered to change their behaviour in response to their pension provision or personal circumstances. For example, an individual will not increase their contributions to pension saving as they approach retirement, or have higher incomes.

Key results

The key output from the model is the built-up pension wealth and entitlement over the course of the individual's work history and the post-retirement income that results from this.

The post-retirement income is presented as projected cashflows from retirement over the future lifespan of the individual. These are annual cashflows which include the following key items:

State Pension
  ➢ Reflects entitlement and the projected benefit level of State Pension components.
Private pension
  ➢ Derived from the decumulation of the pension pot, allowing for tax-free cash lump sum and the chosen decumulation style (e.g., annuity or drawdown).
Other State benefits
  ➢ Other benefits contributing to post-retirement income, such as pension credit.
Tax
  ➢ Tax payable on the post-retirement income, to understand the net income available to the individual.

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[6] OBR (2021)
[7] OBR (2020)

These cashflows are calculated as nominal amounts and restated in current earnings terms.

Outcomes are expressed in current earnings terms for two reasons; it improves the comprehension of the results and reduces the liability of either overly optimistic or cautious economic assumptions.

Application of output

The model is best used to compare outcomes between different individuals, policy options, or other scenarios. The results are best used in conjunction with an appropriate counterfactual to illustrate the variables under test.

Key data sources

The specification of a model run is based upon three areas:

3.   The individual

The individual to be modelled is specified based upon an earnings and career profile. Saving behaviour for private pension accumulation is considered, as well as the behaviour at retirement.

These are generally parameterised according to the project in question, designed to create vignettes to highlight representative individuals of the groups under investigation.

4.   The policy options

The policy option maps the pension framework in which the individual exists. It can accommodate the current system and alternatives derived through parameterisation. This allows flexing of the current system to consider potential policy options, in order to assess their impact upon individuals under investigation.

This area has the scope to consider the buildup of pensions in their framework, such as the automatic enrolment regulations for private pensions and the qualification for entitlement to State benefits.

The framework in retirement allows for the tax treatment and decumulation options taken by the individual, as well as other sources of State benefits which influence the post-retirement outcomes for individuals.

5.   Economic assumptions

The deterministic assumptions used in this analysis are taken from the OBR's EFO to ensure consistency. They cover both historical data and future projected values.

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