

Estimates of the number of people facing inadequate retirement incomes

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Introduction

Previous work by the Pensions Commission and the Institute for Fiscal Studies amongst others has estimated that millions of people may not be saving enough to have an adequate income in retirement. Usually in these analyses people have been regarded as ‘undersaving’ if the ratio of their incomes after and before retirement (their ‘replacement rate’) is below a certain threshold.

People may also be able to boost their retirement income by working longer, or by accessing housing wealth. This analysis does not reflect those options.

This publication presents new analysis which uses the DWP’s dynamic micro-simulation model, Pensim2, to arrive at a new estimate of the number of people amongst the current working age population who will not meet the replacement rate targets originally suggested by the Pensions Commission in their first report. Note that the results presented here represent the results of modelling by the Department’s analysts and do not constitute official statistics.

Queries about the content of this document

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Background

1. There is a previous body of work which tries to estimate the proportion or number of people who are likely to have an inadequate income in retirement.
2. Adequacy has usually been defined in terms of the 'replacement rate,' which is loosely defined as being retirement income taken as a fraction of working age income.
3. The precise definition can vary in many ways. For example, income can be looked at on a gross or net basis, and over different periods. Retirement income can be defined only as income from pensions or can include other forms of wealth, most obviously housing.
4. This approach to defining adequacy is about standard of living in retirement, relative to working life. Where someone's pension income meets a replacement rate definition of adequacy it does not necessarily follow that their pension income would suffice to cover all possible needs in retirement (for example, the funding of long term care needs).
5. Previous work (e.g. by the Institute for Fiscal Studies in 2005) has tended to be based on survey data and to look at the incomes of older people just before and after retirement.
6. This analysis attempts to build on previous work by using a dynamic microsimulation approach. This allows us to look at modelled labour market and pensions outcomes for today's younger workers and to model pensions incomes over the whole of retirement.

Methodology

Replacement rates

7. We use the replacement rate approach as set out in the background section. The replacement rate is income in retirement expressed as a percentage of income before retirement. Here we take average earnings from age 50 until State Pension Age as the measure of pre-retirement income, and look at pension income from State Pension Age onwards averaged over the whole of retirement. The precise definitions are set out in more detail below.
8. The target replacement rates are based on those set out by the Pensions Commission in their first report in 2004, with the bands uprated in line with growth in average earnings between 2004 and 2012. These are set out in **Figure 1** below.

Figure 1: Income bands (gross earnings) and replacement rate targets

Original 2004 income band	Income band in 2012 earnings terms	Target replacement rate
Up to £9,500	Up to £12,000	80%
£9,500-£17,500	£12,000-£22,100	70%
£17,500-£25,000	£22,100-£31,600	67%
£25,000-£40,000	£31,600-£50,500	60%
Over £40,000	Over £50,500	50%

Working age income

9. For each individual aged between 22 and State Pension Age in 2012, working age income is taken as the average of positive gross earnings from age 50 to State Pension Age, in constant earnings terms. For a couple, this average is calculated separately for each individual then summed. The working age income excludes income other than earnings (e.g. it does not include any pensions claimed before State Pension age, or any income from benefits or Tax Credits).

Income in retirement

10. Retirement income is measured from the year of reaching State Pension Age and consists of state pension, private pensions (including Defined Benefit, Defined Contribution, Group Purchase Pensions, Personal Pensions and other annuities), and income from non-pensions financial wealth.
11. Non-pensions financial wealth is not modelled directly in Pensim2, but is imputed for each individual at State Pension age, based on analysis of the first wave of the Wealth and Assets Survey¹.
12. Potential income from other forms of wealth, particularly housing wealth, is not included.
13. Income from benefits other than state pension is excluded from the calculation. In particular, Pension Credit is excluded. However, where working age income is below the level of the Guarantee Credit, they are excluded from the assessment altogether, as Guarantee Credit should give a replacement rate of at least 100%, regardless of their pension provision.
14. Incomes are not equivalised².

Assessment against target income

15. The Pensions Commission replacement rates are not used directly, as they were originally meant for comparison of a single year's income before and after retirement. Our analysis looks at incomes in constant earnings terms, in order that the income bands can be consistently applied across different cohorts. A target for average pension income in constant earnings terms would mean that someone who only just met the target in their first year of retirement would need their pension income to grow in line with average earnings each year to achieve the required average.
16. This is not realistic for most people who have income from private pensions. Instead a target pension income stream is derived, equivalent to achieving the replacement rate target in the year that State Pension age is reached, then having pension income grow in line with prices (CPI inflation) each year³. This can be

¹ For more on the Wealth and Assets Survey see <http://www.ons.gov.uk/ons/rel/was/wealth-in-great-britain/main-results-from-the-wealth-and-assets-survey-2006-2008/index.html>

² In this context equivalisation would mean adjusting actual incomes to reflect the fact that a couple can achieve a given standard of living at less than twice the income required by a single person.

³ Note that this target can sometimes be met through achieving a slightly lower initial pension income which grows faster than CPI inflation.

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seen as setting a target of a constant level of consumption over retirement, related to earnings in working life by the target replacement rate.

17. Individuals are assessed on the basis of the family unit that they are in at the point they reach State Pension age. For a couple, the measure of working age income is the sum of the two individual averages, and the target income stream is derived by splitting the initial target equally between them, regardless of their relative earnings.

Pension policy environment

18. These estimates are based on a modelled pension policy environment which includes legislated changes to State Pension and State Pension Age, as introduced in the Pensions Acts of 2007, 2008 and 2011, but excludes the introduction of the National Employment Savings Trust and automatic enrolment to workplace pensions.

Economic assumptions

19. Assumptions about inflation, earnings growth and the labour market are consistent with medium and long term assumptions from the Office for Budget Responsibility as at Budget 2012.

Coverage

20. The estimates presented here look at the simulated labour market and pensions outcomes for people in Great Britain aged between 22 and State Pension age in 2012/13.

Pensim2

21. The estimates are derived using Pensim2. This is a dynamic micro-simulation model based on a sample of synthetic individuals, representative of the characteristics of the British population, and as such results will be subject to sampling error and stochastic variation.

Results

22. Figure 2 below shows estimates of the number of the current working age population who will have incomes in retirement below the Pensions Commission target replacement rates.

Figure 2: Estimated numbers of individuals aged 22 to State Pension Age in 2012 with inadequate retirement income under Pensions Commission replacement rate targets

Target replacement rate	80%	70%	67%	60%	50%	All
Income bracket	<i>Under £12,000</i>	<i>£12,000-£22,100</i>	<i>£22,100-£31,600</i>	<i>£31,600-£50,500</i>	<i>Over £50,500</i>	<i>All</i>
Total individuals (millions)	1.3	4.3	4.4	8.9	9.0	27.8
Number with income below target (millions)	0.1	1.2	1.7	3.4	4.2	10.7
Percentage with income below target	11%	29%	39%	39%	47%	38%

Sources: Pensim2 model, V14_00 without automatic enrolment, and first wave of Wealth and Assets Survey

Notes:

1. Estimates are in millions, rounded to nearest 0.1 million
2. Income brackets are in constant terms relative to average earnings in 2012/13. Couples are placed in the income bracket reflecting their combined income.
3. Estimates are for Great Britain
4. Estimates exclude around 1.6m people whose working age income is below the level of the Guarantee Credit

Sources

The first report of the Pensions Commission:

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