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How long will people spend in receipt of the State Pension?

Introduction

In the 2013 Autumn Statement the then Chancellor, George Osbourne, set out the coalition government's position that people should spend, on average, up to one third of their life drawing a State Pension. This is controlled using State Pension age (SPa) which the then government set in legislation to be reviewed by each parliament. The current review is due to report in 2017 to inform the position of the current government.

This Briefing Note discusses expected lifespans spent above SPa. It considers the life expectancies of current and future retirees and the proportion of adult life individuals may spend in receipt of the State Pension. The proportion of people attaining a third of their adult life after SPa is considered under the current approach to SPa rises.

Key Findings

The prescribed approach to increasing SPa may leave over half of people reaching SPa in certain years not spending a third of their life in receipt of the state pension.

This is due to increasing SPa beyond the age at which the median life expectancy at SPa represents a third of adult life.

The greatest impact is for those who reach SPa at the end of the transitional period as SPa is increased.

Chart 1: The probability of death at a particular age defines life expectancy

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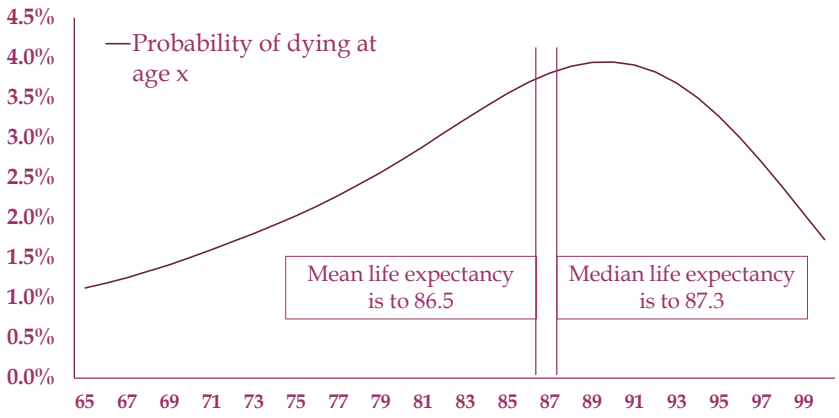
For a 65 year old male in 2016, their mean future life expectancy is 10 months shorter than the median life expectancy



The assessment of the proportion of life spent in retirement is based upon data from the Office for National Statistics (ONS) principal projections of cohort life expectancy. The most recent, 2014-based, projections from ONS are used throughout this Briefing Note. The use of "retirement" and its derivatives are used throughout this Briefing Note to relate to the period after reaching SPa (it is accepted that retirement age may not be linked to eligibility for State Pension, nor the receipt of pension either state or private).

This projection depends upon the composition of the cohort reaching SPa in a particular year and the improving mortality rate projections associated with that cohort.

Life Expectancy definitions

Conventionally, life expectancy ($\mathring{e}_x$, Box 1) is a mean of future lifespans within a cohort.

Median life expectancy is also derived from mortality projections (using the l_x statistic, Box 1) to identify the time at which the median individual is expected to die (that is, the time at which half the base population is projected to have died).

Median life expectancy is greater than mean life expectancy at retirement ages. This is due to the number of individuals projected to die early in the skewed distribution of deaths by age [Chart 1].

Box 1: Definitions

$\mathring{e}_x$
represents the expected value of the complete future life expectancy (time until death) at age x.

l_x
represents the number of surviving individuals from a base cohort at age x.

In 2016, 53.1% of men aged 65 are expected to survive until at least their life expectancy of 86.5 years old. As projected life expectancy is expected to increase in the future the distribution of future lifespans widens. This results in the gap between the mean and median life expectancies increasing [Chart 2].

Chart 2: The future life expectancy of a 65 year old man over time

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As life expectancy increases the gap between the mean and median expectancy widens

Males, age 65, cohort life expectancy, ONS 2014-based principal projection

		Year attaining age 65		
		2016	2031	2046
Mean life expectancy (e°_{65})	Future lifespan (years)	21.5	23.2	24.8
	Expected age of death	86.5	88.2	89.8
Median life expectancy	Future lifespan (years)	22.3	24.1	25.8
	Expected age of death	87.3	89.1	90.8
Difference between mean and median (months)		10.0	11.0	11.9
Proportion surviving to mean life expectancy		53.1%	53.4%	53.7%

The length of time spent above SPa for those reaching SPa in 2016

The projected time spent in retirement for a cohort is dependent upon: the currently different retirement ages of men and women; the number of each reaching SPa; and their projected mortality rates which are subject to many factors.

For those retiring in 2016 the mean life expectancy across the cohort is 22.5 years.

This is a decrease from the previous year (22.9 years) despite improvements in mortality. The decrease is a result of the change in the numbers of men and women retiring. At the end of 2016 SPa for men was 65 and for women was 63½. A woman reaching SPa is projected to live for four more years beyond SPa than a man, due to the combination of a lower SPa and better overall longevity.

The number of women expected to reach SPa is significantly lower than the number of men. Department for Work and Pensions (DWP) have projected in the 2016/17 financial year 320,000 men and 90,000 women will reach SPa. This difference is due to the acceleration of the rise in women's SPa towards equalisation at age 65 in 2018. After equalisation more women than men are expected to reach SPa each year until 2060.

Chart 3: Future life expectancy for those reaching SPa in 2016

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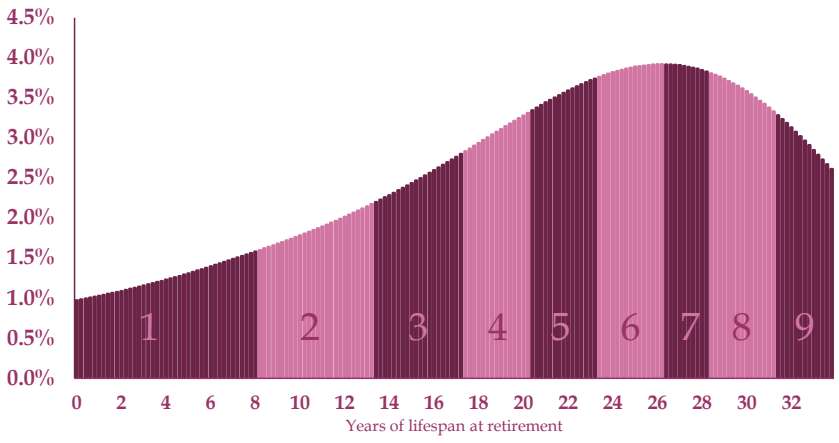
Deciles of life expectancy at SPa



- *The ninth decile extends beyond age 100 for men where uncertainty increases (not shown).*
- *The highest projected life expectancy (at the top of the tenth decile) is over 50 years after retirement.*

At SPa in 2016 the distribution of future lifespans peaks at around 26 years of lifespan at retirement [Chart 3].

The proportion of adult life spent in receipt of the State Pension

The proportion of adult life spent in receipt of the State Pension as defined to coincide with the Autumn Statement 2013 is calculated from SPa (which is assumed to be reached) as future lifespan divided by the total lifespan from age

20 (when adult life begins within this definition).[1]

$$\frac{\left(\overset{\circ}{e}_{SPa}\right)}{\left(\overset{\circ}{e}_{SPa} + SPa - 20\right)}$$

For example an individual with a SPa of 65 who died at age 80 would have spent 25% of their adult life in receipt of the State Pension.

$$\frac{(80-65)}{(80-20)} = 25\%$$

The rate of increase in the proportion of life spent above SPa decreases at higher ages. As SPa is increased the proportion of life spent above SPa is reduced for a given lifespan as the duration of retirement is reduced [Chart 4].

The expectation of the proportion of life spent in receipt of the State Pension is based upon $\mathring{e}_{SPa}$ and it is only considered for those who attain SPa. Currently, due to differing SPa and mortality experience for men and women, this proportion is not consistent between the sexes. To achieve a rate for the entire population it is weighted according to the number of people reaching SPa. Historically the average proportion of adult life spent above SPa has been 33% over the last ten years and 32% over the last 20 years (DWP calculations, SPa review). An equivalent calculation based upon the median life expectancy results in a proportion approximately 1 percentage point higher due to higher median life expectancy.

Chart 4: The proportion of adult life in retirement increases more slowly at higher ages

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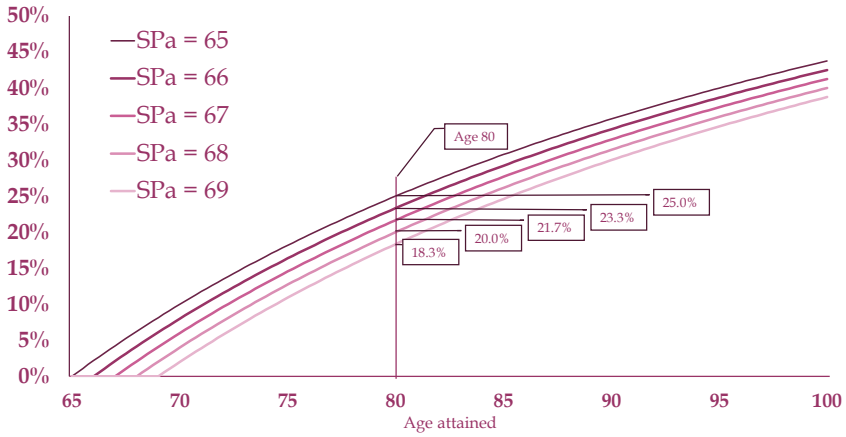
The proportion of adult life spent in retirement as an individual grows older



Those reaching SPa around 2040

Based upon current legislation SPa in 2040/41 is 67 for both men and women when 750,000 individuals are projected to reach SPa (360,000 men and 380,000 women).

The distribution of the proportion of their adult lives they can expect in receipt of the State Pension is illustrated in Chart 5. If SPa was increased by one year to age 68, 6,000 individuals would not reach the increased SPa and the period of life spent in receipt of the State Pension would decrease for others. The median proportion of adult life in receipt of the State Pension (from SPa)

Chart 5: The proportion of life after State Pension age for 67 year olds in 2040/41

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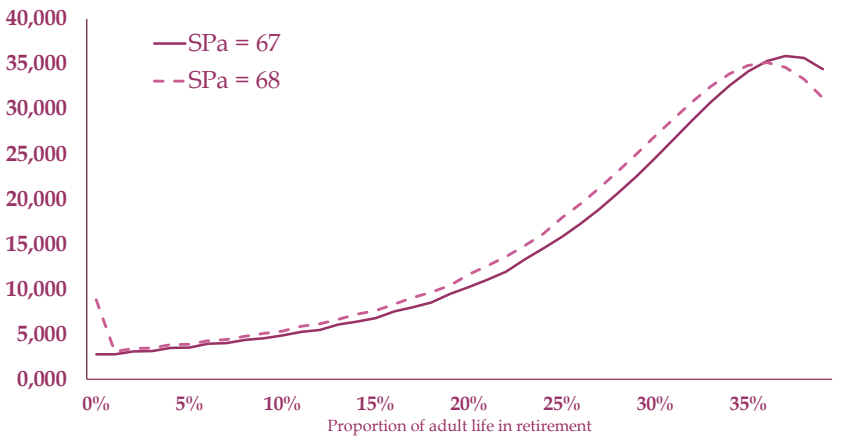
If SPa was one year higher in 2040/41 the median proportion of adult life in retirement changes from 34.0% to 32.6%



for this cohort will decrease from 34.0% to 32.7%. Based upon mean life expectancy this proportion decreases from 33.6% to 32.2%

The proportion who will receive State Pension for a third of adult life decreases from 53%, to 47% [Chart 6]. This difference represents 44,000 individuals who would no longer attain one third of their adult life in receipt of the State Pension.

Considering only those who survive an additional year to an increased SPa, the number of state pensioners spending one third of their life in receipt of the State Pension is reduced by around 5% (38,000 individuals).

Chart 6: The proportion of adult life spent in receipt of State Pension

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Individuals aged 67 in 2041/41, PPI calculations on ONS 2014-based principal projections

Proportion of life in receipt of the State Pension	SPa equal to 67	SPa equal to 68	Those who reach SPa, equal to 68
Reach SPa	100.0%	99.2%	100.0%
25%	77.7%	74.3%	75.1%
30%	64.9%	59.9%	60.7%
31%	61.5%	56.3%	57.0%
32%	57.9%	52.3%	53.1%
33%	54.1%	48.2%	49.0%
One third	52.7%	46.7%	47.5%
34%	49.9%	43.8%	44.6%
35%	45.5%	39.2%	40.0%

Median life expectancy and the current SPa legislation

Currently future SPa rises above the age of 65 take a two year transition period for each legislated year of increase. This transition period ends at the time when the mean future life expectancy of people reaching SPa is to receive State Pension for a third of their adult life. As SPa increases the proportion of individuals projected to survive for a third of their adult life decreases over this transition period. SPa is currently legislated to rise to age 67 in 2028 and age 68 in 2046. The year in which 50% of people attaining age 67 and age 68 can expect to live for a third of their adult life occurs in 2034 and 2047 respectively [Chart 7].

Chart 7: The age at which median life expectancy is a third of adult life

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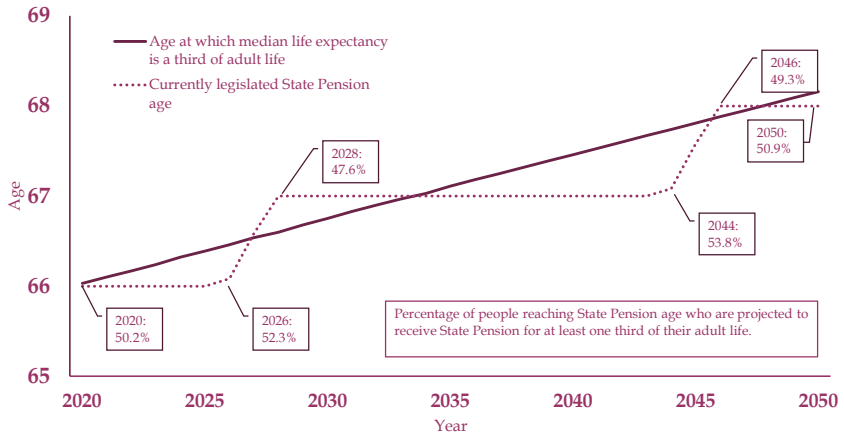
In 2030 at age 67¾ 50% of people are projected to live for a further third of their adult life



SPa increases under the current legislation result in SPa being raised above the age where 50% of individuals can expect to spend one third of their life in receipt of the State Pension. After the currently legislated rise in SPa to 67 from 2026 to 2028, only 47.6% of people reaching SPa are projected to experience one third of their adult life in receipt of the State Pension.

Conclusions

The prescribed approach to increasing SPa may leave over half of people reaching SPa in certain years not spending a third of their life in receipt of the State Pension.

This is due to increasing SPa beyond the age at which the median

life expectancy at SPa represents a third of adult life. The greatest impact is for those who reach SPa at the end of the transitional period as SPa is increased.

To implement an expectation of half of those reaching SPa in a particular year to spend a third of their adult life in receipt of the State Pension could be achieved by either:

- a delay in the increase of SPa;
- an increase to the transitional period (currently two years) such that a SPa of 67 is only reached in 2034;
- a change to the definition of adult life, increasing it from the current definition of 20.

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1. Department for Work and Pensions (2013) *Autumn Statement announcement on a core principle underpinning future State Pension age rises: DWP background note*

Further data sources:

DWP (2016) Impact of New State Pension (nSP) on an Individual's Pension Entitlement—Longer Term Effects of nSP

ONS (2015) 2014-based population projections

ONS (2015) 2014-based life tables

For more information on this topic, please contact
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