

Contributions into the State Pension system versus receipts for people of different income and employment profiles

The analysis in this note was presented as evidence for the State Pension age review
in January 2023

Introduction

The following analysis explores how much people of different socio-economic groups and ages, in stylised circumstances, might contribute throughout their lifetime to National Insurance (NI) versus how much they might receive from the new State Pension (nSP) in retirement.

This note compares the total money that these individuals may have paid in National Insurance contributions (NICs) throughout their working lives and compares it with the total amount they may receive through the State Pension.

This note is not about the funding of the National Insurance fund. The fund is a Pay-As-You-Go system where people's NI contributions pay for current benefit recipients; they do not directly pay for their own benefits. NICs also pay for a range of other benefits alongside the State Pension which have changed in value over time. It is, therefore, inappropriate to make intergenerational comparisons from the analysis contained in this note.

This note is an update to analysis initially performed in 2017 to feed into the State Pension Age Review. This note expands on the original note by comparing the situation in 2022 to that in 2017.

All money is presented in 2022 earnings terms, then aggregated so that the results can be compared consistently. The numbers are based on individual NI contributions only.

The high level results from this analysis are:

- The lifetime NICs of those on female median earning employees may constitute a lower proportion of State Pension income than men median earning employees as a result of gender differences in earnings distributions and women's higher life expectancy (Table 1).
- The lifetime NICs of those on lower incomes constitute a lower proportion of State Pension income than those on higher incomes (Table 2).

- Younger people’s lifetime NICs will tend to be higher than those paid by 60 year-olds due to historical differences in NIC rates (Tables 1, 2 and 3).
- Those in receipt of NI credits and the self-employed will pay a lower proportion through contributions of what they will receive in income from the State Pension than employees who are in full-time work throughout (Tables 4 and 5).
- 40 and 60-year-olds have different State Pension age than they did in 2017, which could extend their working life, increasing the NI contributions they might pay and delaying the start of their State Pension, resulting in a higher proportion of NICs to State Pension received.
- 60-year-olds in 2022 are likely to have lower levels of Protected Payments under the State Pension than those in 2017, leading to lower relative levels of State Pension. Lower relative state pension further increases the proportion of NICs to State Pension received.

Individuals modelled

The individuals modelled are men and women earning at the 10th, 50th, and 90th earning percentiles. These are considered for three ages, 20, 40 and 60-year-olds. The results for these individuals are set out in Tables 1-3.

Further to these individuals the modelling also considered people who had an interrupted work history where for 10 years they accrued NI credits rather than working and paying contributions. The results for these individuals are set out in Table 4.

Finally, the modelling also considered the NICs of self-employed people, who for comparability of the results were assumed to make profits at the same level as the earnings of the 10th, 50th and 90th percentile earners. The results for these individuals are set out in Table 5.

Assumptions

Pensions Policy Institute (PPI) modelling uses economic assumptions in line with OBR financial assumptions. This analysis assumes that the State Pension is uprated in the future in line with the triple lock. If the State Pension is uprated by growth in average earnings, then the proportion of State Pension income that people have “paid for” would be higher.

The analysis behind this paper uses age and gender specific earnings profiles to calculate the salary throughout working life, and therefore the National Insurance that would be payable, and also the amount of State Pension accrued. These profiles are derived from analysis of data from the Labour Force Survey.¹ It is assumed that NI contribution rates in the future are

¹ Using the current age and gender earning profiles are created by looking at percentile earnings levels at each age. For example the median earner at each age is assumed then to define a median earning age profile.

kept at the current levels; and past NI contributions use the appropriate historical contribution rates and thresholds.

Assumed age of death uses the age and gender based cohort life expectancies from the ONS 2020 based principal projection. The life expectancies used for the median earners are unadjusted from the ONS figures. For the low and high income life expectancies we adjust the figure. The life expectancy is reduced by 3 years from the published figure for the 10th percentile earner, and increased by 3 years for the 90th percentile earner. This is consistent with a 6 year spread of life expectancies by socio-economic position as was noted by the ONS.²

Presentation of results

The tables in this note all follow the same pattern. Each column presents:

- the gender of the individual,
- which income percentile they are in, and their assumed age of death,
- total NI contributions made by the individual over their working life in 2022 earnings terms (this excludes employer NI contributions made in respect of the individual),
- the total amount of State Pension they receive from State Pension age until death (using the assumed age of death) in 2022 earnings terms, and
- the proportion of the State Pension received that is covered by their own NI contributions (i.e. Individual's NICs / State Pension received).

² ONS - Trend in life expectancy at birth and at age 65 by socio-economic position based on the National Statistics Socio-economic Classification, England and Wales: 1982–1986 to 2007–2011

NICs and State Pension paid for employees currently aged 20

Table 1 sets out the amount of NICs paid by current 20-year-olds, and the total amount of State Pension they may receive in retirement. Among the current 20-year-olds modelled, none pays in as much in employee NICs as they receive in State Pension.

Table 1: Money paid out through NICs during the lifetime and amount received through State Pension income in retirement for people aged 20 in 2022 by gender and income percentiles

Age 20 in 2022	Men			Women		
Income percentile	10 th (d. age 86)	50 th (d. age 89)	90 th (d. age 92)	10 th (d. age 89)	50 th (d. age 92)	90 th (d. age 95)
NICs paid in	£60,000	£141,000	£251,000	£47,000	£113,000	£234,000
State Pension income received	£216,000	£254,000	£291,000	£254,000	£291,000	£329,000
Proportion of State Pension income paid in through NICs	28%	56%	86%	18%	39%	71%

Higher paid workers are expected to live for longer than lower earners, meaning they are in receipt of the state pension for longer. In the examples in Table 1 the State Pension is at a flat rate, so the differences in State Pension received are due to receiving it for longer.

NICs are salary related so the higher paid individuals have paid in a larger amount of NICs than the lower earners.

Higher earners are expected to live longer and therefore receive the State Pension for longer, but they are also paying in higher NICs. In the examples in Table 1, the difference in NICs paid by the higher earners compared to lower earners exceeds the relative difference in State Pension that they receive in retirement due to higher life expectancy.

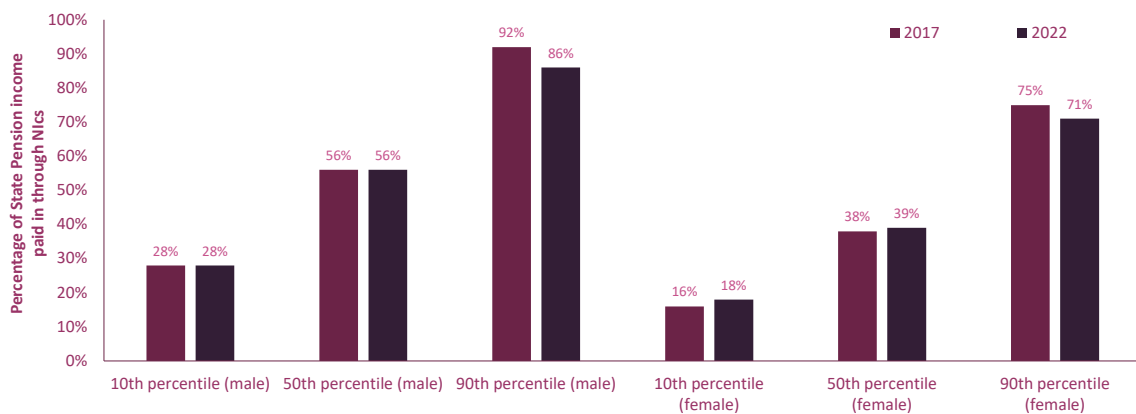
A 20-year-old man earning at the 90th percentile might throughout their working life pay NICs that total to around 86% of the income they eventually receive from the State Pension. Whereas for a median earning man, 56% of his State Pension is covered by his personal NICs.

Comparing the situation in 2017 to that in 2022, 20-year-olds in both years have similar proportions of projected NICs to State Pension income (Chart 1).³

Chart1

For 20-year-olds the proportion of projected NICs to State Pension income is similar in 2022 and 2017

Money paid out through NICs during the lifetime and amount received through State Pension income in retirement for people aged 20 in 2017/2022 by gender and income percentiles



³ A reduction in the proportion rates for the 90th percentile is a result of a slight flattening of the 90th percentile earnings profile.

NICs and State Pension paid for employees currently aged 40

Table 2 sets out the amount of NICs paid by current 40-year-olds, and the total amount of State Pension they may receive in retirement. The 40-year-olds in Table 2 have a similar pattern to the 20-year-olds in Table 1.

Table 2: Money paid out through NICs during the lifetime and amount received through State Pension income in retirement for people aged 40 in 2022 by gender and income percentiles

Age 40 in 2022	Men			Women		
	10 th (d. age 84)	50 th (d. age 87)	90 th (d. age 90)	10 th (d. age 87)	50 th (d. age 90)	90 th (d. age 93)
NICs paid in	£56,000	£138,000	£250,000	£42,000	£108,000	£229,000
State Pension income paid out	£179,000	£213,000	£248,000	£213,000	£248,000	£284,000
Proportion of State Pension income paid in through NICs	31%	65%	101%	20%	43%	81%

Men tend to have paid a higher proportion of the State Pension they receive in NICs than women earning at the same percentile point. There are two reasons for this: differences in the gender specific earnings distributions, and differences in life expectancies.

The distribution of women's earnings is lower than the distribution of men's earnings. This means that the man earning at the median level for men has a higher lifetime earnings than the woman earning at the median level for women. This means that the NICs are lower for the median earning woman, compared to the median earning man.

The woman's life expectancy is longer than the man's. This means that the median earning woman is likely to receive their State Pension for longer than the median earning man. So the total State Pension income received is higher for the woman than for the man.

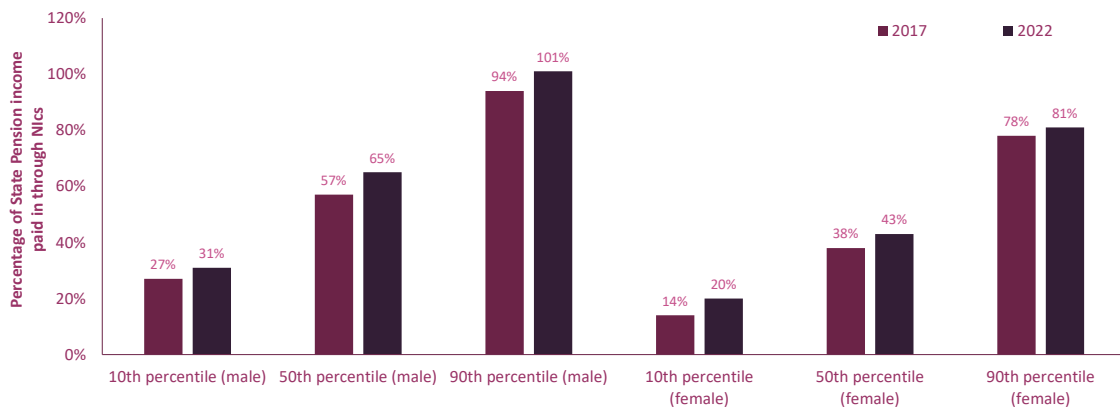
The combination of both lower NICs paid and higher total State Pension received lead to a lower proportion of State Pension income covered by NICs for women than men.

For 40-year-olds the projected ratio of NICs paid to State Pension received is slightly higher in 2022 than it was in 2017 (Chart 2).

Chart 2

For 40-year-olds the proportion of projected NICs to State Pension income is slightly higher in 2022 than 2017

Money paid out through NICs during the lifetime and amount received through State Pension income in retirement for people aged 40 in 2017/2022 by gender and income percentiles



This reflects the fact that for 40-year-olds in 2017, their State Pension age (SPa) is 67, while in 2022, the SPa of current 40-year-olds is 68. A higher State Pension age reduces the amount of State Pension received; and increases NICs because of an extra year of work. Therefore, the proportion of NICs paid, to State Pension received, increases.

NICs and State Pension paid for employees currently aged 60

In comparison with Tables 1 and 2, Table 3 shows that older workers lifetime NICs tend to be lower than the younger people's. This is caused by lower historical NIC rates. 60-year-olds are also more likely to have excess pension payments arising from the additional State Pension.

Table 3: Money paid out through NICs during the lifetime and amount received through State Pension income in retirement for people aged 60 in 2022 by gender and income percentiles

Age 60 in 2022	Men			Women		
Income percentile	10 th (d. age 83)	50 th (d. age 86)	90 th (d. age 89)	10 th (d. age 85)	50 th (d. age 88)	90 th (d. age 91)
NICs paid in	£59,000	£134,000	£228,000	£41,000	£98,000	£206,000
State Pension income paid out	£166,000	£222,000	£288,000	£187,000	£232,000	£304,000
Proportion of State Pension income paid in through NICs	36%	60%	79%	22%	42%	68%

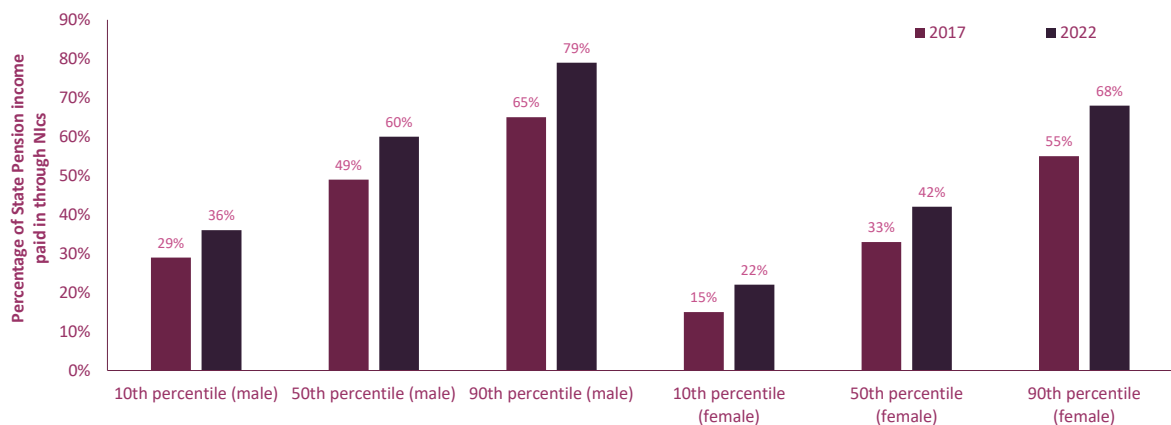
Today's 60-year-olds have been paying NICs since the 1980s. The National Insurance contributions have changed over the years. These changes are largely characterised by an increase in the contribution rate over time, especially for higher earners. This means that younger people tend to have higher lifetime NICs than older people, on the assumption that future NIC rates remain at current levels.

Before 2016, State Pension income was accrued in two parts, the basic State Pension and the salary-related additional State Pension. The new State Pension was implemented in 2016 and was set at a rate higher than the existing basic State Pension. However, transitional arrangements allow for people who have accrued a combined basic and additional State Pension higher than the new State Pension to receive a top up equal to the excess. Older workers, with more years of accrual of additional State Pension are more likely to have an excess payment, especially higher earners.

Chart 3

60-year-olds in 2022 NICs are a higher proportion of their State Pension income than those in in 2017

Money paid out through NICs during the lifetime and amount received through State Pension income in retirement for people aged 60 in 2017/2022 by gender and income percentiles



60-year-olds in 2022 have the largest difference from their counterparts in 2017 (Chart 3). The reasons for this are two-fold, a higher State Pension age and the legacy impact of additional State Pension. The SPa for 60-year-olds in 2022 is higher, at 67, than it was for those in 2017 where it was 66. As we saw with the 40-year-olds a higher SPa increases the NICs paid and reduces the overall State Pension received. In the case of 60-year-olds there is an additional factor arising from the abolished additional pension.

When the new State Pension (nSP) was introduced in 2016 there was a comparison for individuals of the pension already accrued under the old system, to the level of the new State Pension. If, through basic State Pension and additional State Pension, the accrued State Pension exceeded the level of the new State Pension then the individual was eligible to a “protected payment” on top of the new State Pension. Having been eligible for additional State Pension for more of their working life, people who were 60 in 2017 were more likely to have higher levels of protected payment entitlement than 60-year-olds in 2022. So 60-year-olds in 2022 are likely to have a lower State Pension, leading to a higher ratio of NICs paid in to State Pension received than 60-year-olds in 2017.

NICs and State Pension paid for employees taking a 10 year career break

National Insurance contributions are not paid when people are out of work and not earning, however it is possible for individuals to accrue NI credits, for example if they are caring. Table 4 considers people aged 40 in 2022 who spend 10 years out of the workforce but who receive NI credits for that time.

Table 4: Money paid out through NICs during the lifetime and amount received through State Pension income in retirement for people aged 40 in 2022 who received 10 years of NICs through credits by gender and income percentiles

Age 40 in 2022	Men			Women		
	10 th (d. age 84)	50 th (d. age 87)	90 th (d. age 90)	10 th (d. age 87)	50 th (d. age 90)	90 th (d. age 93)
NICs paid in	£44,000	£110,000	£199,000	£33,000	£85,000	£184,000
State Pension income paid out	£179,000	£213,000	£248,000	£213,000	£248,000	£284,000
Proportion of State Pension income paid in through NICs	25%	52%	80%	15%	34%	65%

As there are fewer years working and paying NICs, the total amount of NICs is lower than the comparable individual who is in employment throughout (Table 2). For example, a median earning woman in Table 2 has paid a cumulative £108,000 of NICs in 2022 earning terms. This compares with the £85,000 paid by a similar woman who has had a 10 year career break.

Credits replace earned NI so that the State Pension does not decrease as a result of missed NI contributions. The total State Pension is therefore the same in Table 4 as it is in Table 2. For example, the median earning 40-year-old woman might expect a total income from State Pension of around £248,000 in both Table 2 and Table 4.

If the modelling had been carried out on 60-year-olds there may have been a difference in the State Pension level because accrued additional State Pension would have reduced for those who had a career break leading to a reduced, or no, excess payment under the new State Pension.

With a reduced level of NICs, but an unreduced level of State Pension, the proportion of State Pension covered by NICs is lower than for those who were in employment throughout.

NICs and State Pension paid for the self-employed

Self-employed people pay NICs differently to employees. NICs are payable on profits rather than on salary. In total the NICs of self-employed people are payable at a lower rate than those paid by employees.

To present more comparable results self-employed individuals were modelled as having profits at the same level as the employees' earnings profiles assumed throughout (Table 5).

Table 5: Money paid out through NICs during the lifetime and amount received through State Pension income in retirement for people aged 40 in 2022 who are self-employed by gender and income percentiles

Age 40 in 2022	Men			Women		
Income percentile	10 th (d. age 84)	50 th (d. age 87)	90 th (d. age 90)	10 th (d. age 87)	50 th (d. age 90)	90 th (d. age 93)
NICs paid in	£44,000	£105,000	£192,000	£33,000	£82,000	£173,000
State Pension income paid out	£179,000	£213,000	£248,000	£213,000	£248,000	£284,000
Proportion of State Pension income paid in through NICs	25%	49%	78%	16%	33%	61%

Under the pre-2016 State Pension system self-employed people were ineligible for the additional State Pension; they received only the basic State Pension. On the introduction of the new State Pension system self-employed people would receive the full new State Pension, at the same rate as employees.

Paying a lower rate of NICs but receiving the same State Pension means that self-employed people's NICs cover a smaller proportion of their State Pension than employees.