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Closing the gap: the
choices and factors
that can affect
private pension
income in retirement

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Closing the gap: the choices and factors that can affect private pension income in retirement

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Introduction

The independent Workplace Retirement Income Commission (WRIC) was set up by the National Association of Pension Funds (NAPF) in order to *find better ways to provide retirement income for the millions of working people who depend on workplace saving for security and dignity in retirement.*

WRIC published their report in August 2011, in which they made a series of recommendations designed to make it easier for employees to achieve improved outcomes from their workplace pension scheme.

Following the work of WRIC, the NAPF commissioned the Pensions Policy Institute (PPI) to produce case studies illustrating the impact of a number of factors and choices that can affect the level of income from a workplace pension in retirement.

Chapter 1 of this report sets out the case studies and the scope of the analysis.

Chapter 2 considers the potential impact of individuals making different choices and other factors on private pension income.

Chapter 3 considers the possible cumulative impact of making a series of choices and other factors which can affect the resulting private pension income.

Executive Summary

When saving for retirement in a Defined Contribution (DC) pension scheme there are a number of choices that an employee and their employer will make. These choices can have an impact on the final income received in retirement by the employee. Employee choices include: increasing employee contributions; whether to opt out of pension provision; when to retire; how much of the pension fund to convert into an income and which retirement income product to use to convert a pension fund into an income in retirement. Other factors include employer choices regarding the level of employer contributions and the level of charges of the pension scheme.

The individual impact of positive and negative choices and factors

The research shows the impact of certain specific choices and factors for a median earning man and woman, and their potential to either reduce or enhance private pension incomes.

The modelling shows that making sacrifices earlier on in life such as increasing contributions into a pension, or later on in life by working and saving for longer, or annuitising some or all of the 25% tax free lump sum, can significantly enhance your pension (Chart 1). For example:

- Saving a total of 12% of band earnings¹ (rather than the 8% of band earnings minimum under auto-enrolment, and above the current average for a DC occupational scheme of 6% employer contributions and 3% employee contributions²) into your private pension can increase private pension income by 50%;
- Retiring 2 years after state pension age and continuing to save in that time has a positive two-fold effect through saving more and deferring annuity purchase and can enhance private pension income by 20%;
- Opting out between the ages of 30 and 40 and starting to save ten years later can reduce private pension income by 32%;
- Retiring 2 years before state pension age and starting to draw down your pension can reduce private pension income by 18%.

The research also demonstrates the adverse impact of an individual being a member of a pension scheme with higher charges, or from an individual not 'shopping around' for the best annuity rate available on the market. These are choices and factors that, if changed, could increase individual's private pension income. However, they rely on the employer securing access to a lower charging scheme, which may not be possible especially for smaller schemes, or on an individual shopping around at retirement to find an annuity on the market offering a better rate.

¹ Band earnings is the earnings range over which employee and employer pension contributions are made. Under auto-enrolment, band earnings will be earnings between £5,715 and £38,185 in 2010/11 earnings terms for those earning over the auto-enrolment threshold which is equal to the standard personal tax allowance (£7,475 in 2011/12).

² ONS (2011)

Chart 1³

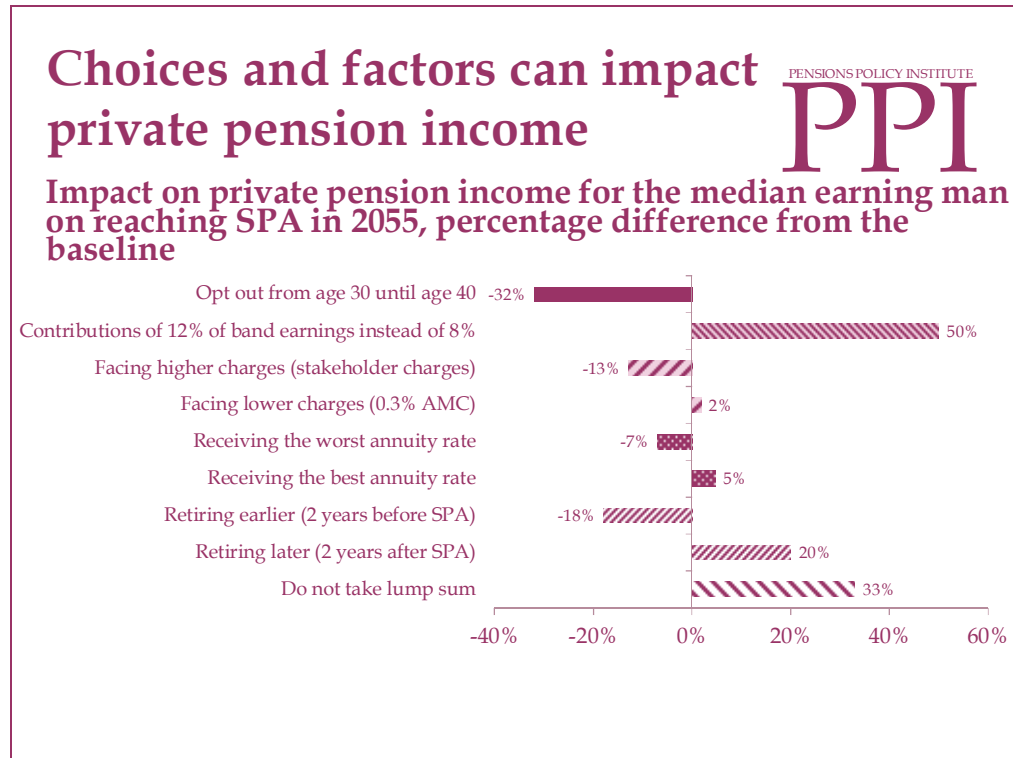
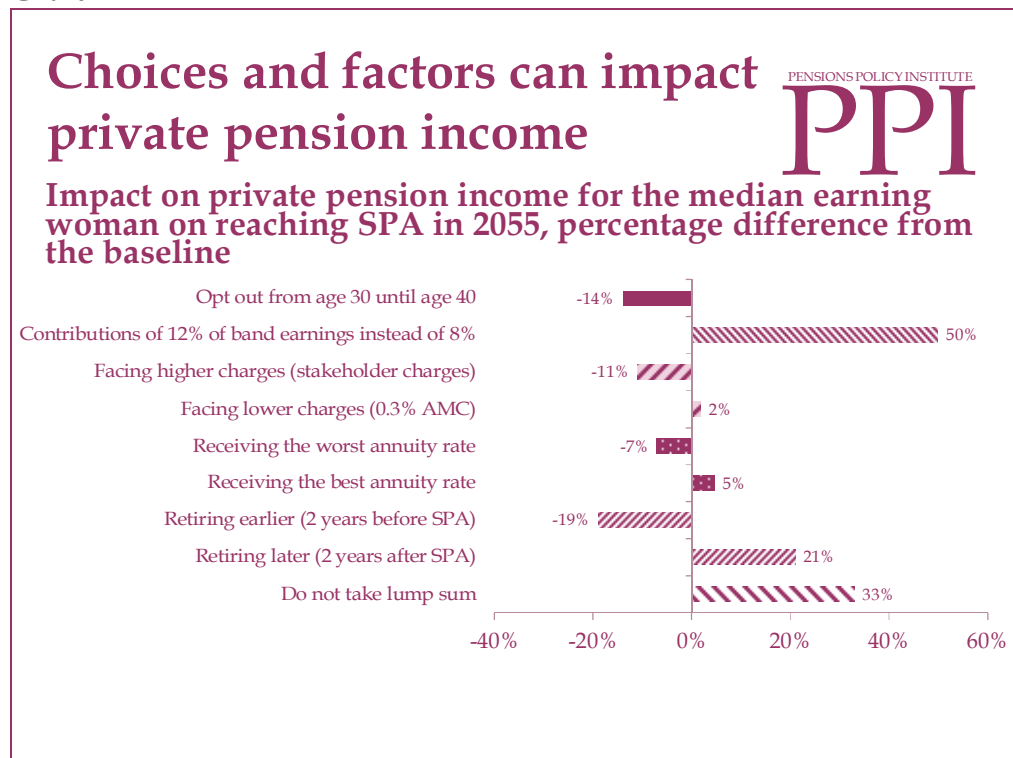


Chart 2⁴



³ PPI modelling

⁴ PPI modelling

On charges, even the difference between a low charge⁵ and a charge set at the level of the stakeholder cap⁶ is significant. Compared to the National Employment Savings Trust (NEST) combined charge⁷, a lower annual management charge (AMC) at a flat rate of 0.3% increases a male median earner's private pension income by 2%, whilst charges in line with stakeholder caps reduce private pension income by 13%.

Securing the best single life, level annuity rate on the Money Advice Service tables⁸ compared to a mid-range annuity rate can increase private pension income by 5%, whilst locking into the lowest annuity rate on the Money Advice Service tables can reduce private pension income by 7%. The example used in the modelling is for a median level annuity. In practice the variation observed for specific individuals, particularly those eligible for an enhanced annuity, can be much greater.

Opting out of pension saving from age 30 until age 40 has a smaller impact on private pension income for the median earning woman than it does for the median earning man. This is because the median earning woman is already assumed to care for children from age 30 to 35, so opts out from fewer years of pension saving than the median earning man.

The cumulative impact of positive choices and factors

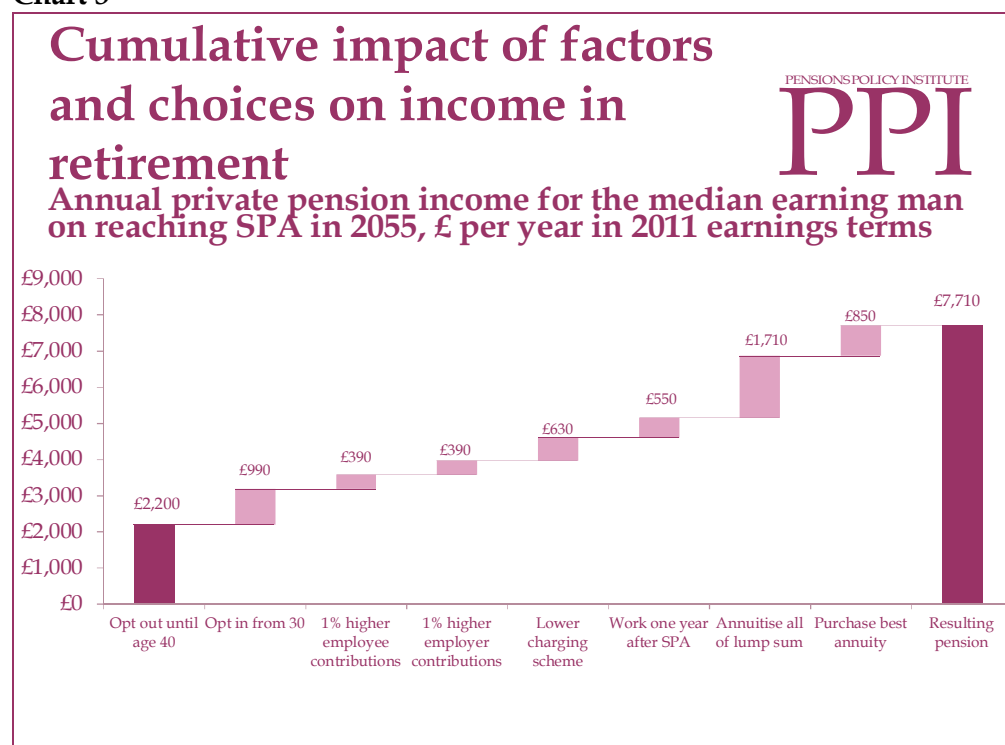
The research also demonstrates the cumulative impact that such choices and factors can have on an individual's private pension income in retirement. For example, a median earning man who remains opted-in to pension saving from age 30; contributes an extra 1% of band earnings and receives an extra 1% contribution from their employer; is in a scheme with low charges; works an extra year after their state pension age; and who annuitises their lump sum and shops around for an annuity could have a private pension income that is three times higher (£7,710 a year compared to £2,200 a year) than a median earner who makes different choices and is subject to different factors (Chart 3).

⁵ In line with a long-term NEST rate of 0.3% AMC

⁶ An AMC of 1.5% for the first ten years falling to 1.0%.

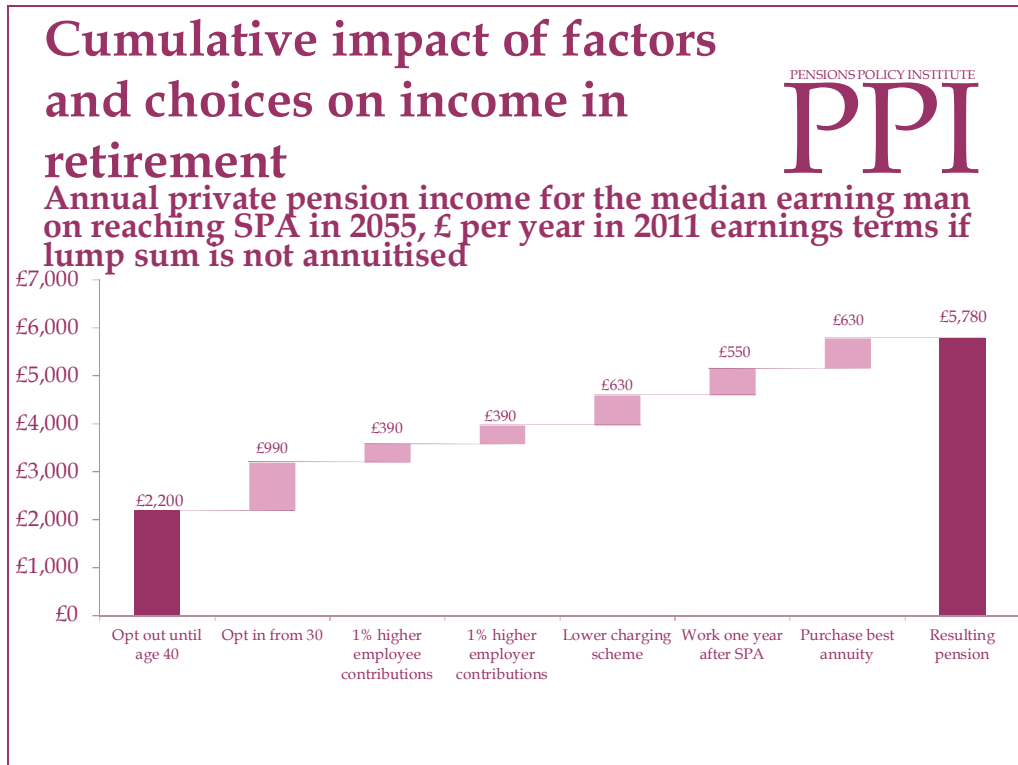
⁷ A 1.8% contribution charge and a 0.3% AMC

⁸ Money Advice Service annuity comparison tables are available at tables.moneyadviceservice.org.uk/Comparison-tables-home/Annuities/Compare-Annuities/

Chart 3⁹

The case for an individual to not take their tax-free lump sum at retirement and annuitise it instead is not clear cut - given the beneficial tax treatment of the lump sum and the resulting impact on overall income and capital at, and during, retirement. However, even if the impact of not taking the lump sum is stripped out of the modelling, annual private pension income is still two and a half times higher under the high income scenario at £5,780 a year instead of £2,200 a year (Chart 4).

⁹ PPI modelling

Chart 4¹⁰

Overcoming the impact of opting out, higher charges, and lower annuity rates

Finally, the research shows the potential implication to the individual of some of the negative choices and factors by considering what increase in contributions would be needed, or how much longer the individual would need to work and save, to reinstate levels of private pension income.

The modelling finds that:

- Opting out until age 40, instead of starting to contribute into a pension from age 30, could reduce the available pension pot at retirement from £59,500 to £40,600. So starting to save at age 30 could have produced a private pension income in retirement nearly 50% higher. **To make up for these lost 10 years the individual might need to contribute an extra 4% of their band earning into their pension for the rest of their working life.**
- Being in a scheme with charges in line with the stakeholder charge cap, instead of a scheme with charges in line with the long-term NEST rate of an annual management charge of 0.3%, could reduce the available pension pot at retirement from £60,600 to £52,000. Being in a scheme with lower charges could have produced a private pension income in retirement around 17% higher. **To compensate for this difference in charges the individual might need to save an extra 1.5% of their band earnings into their pension every year or could retire 3 years after state pension age.**

¹⁰ PPI modelling

- Converting the pension fund to an income using the lowest annuity rate on the Money Advice Service tables, instead of securing the highest annuity rate available on the Money Advice Service tables, could reduce the pension income by around 12%. **To compensate for the lower annuity rate the individual might need to save an extra 1% of their band earnings into their pension every year or could retire 2 years after state pension age.**

Chapter one: the case studies

The aim of this research is to investigate how different choices made by individuals and employers can affect the final private pension income of an individual that is received from a workplace pension.

This analysis models a range of case studies with different characteristics to highlight variations in potential private pension income outcomes. It is intended to highlight how the different choices that people make could impact their incomes in retirement.

The analysis assumes that the state pension will take the form of the single tier flat-rate pension system, as broadly described in the DWP Green Paper on state pension reform.¹¹ This assumes that, from state pension age (SPA), a flat-rate pension is payable of £140 a week (in 2010 earnings terms) increased in line with the higher of earnings, prices or 2.5% (triple-lock¹²), with no Savings Credit and no contracting-out. However, it should be stressed that the Government has not yet announced firm plans to introduce a single tier state pension.

From 2012, in a staged process, employers must start to automatically enrol their eligible employees into a pension scheme which can either be a qualifying existing pension scheme or the new National Employment Savings Trust (NEST). The first wave of large employers must start to auto-enrol their employees from October 2012. On 25 January 2012 the Government announced a new timetable for the phasing-in of auto-enrolment. Under the new timetable, all existing employers will be required to auto enrol their employees by April 2017. There will be a final cut-off point where all existing and new employers must have auto-enrolment in place by 1 February 2018.¹³ Employees have the option of opting-out of saving in a pension. The modelling assumes that the individuals in our case studies are auto-enrolled into a pension scheme from age 30 in 2017.

The scheme into which the employees are enrolled is subject to a minimum level of employer contributions which will be phased in up to an eventual level of 3% of band earnings¹⁴ by October 2018.¹⁵ The modelling in this paper assumes that contributions are at the eventual minimum level of 8% of band earnings, and that the employer makes the eventual minimum employer

¹¹ DWP (2011)

¹² The triple-lock is the higher of the increase in earnings, the Consumer Prices Index (CPI) or 2.5%. It was introduced in the June 2010 Emergency Budget by the Coalition Government as the mechanism by which the Basic State Pension (BSP) would be increased from April 2011.

¹³ Ministerial Statement 25 January 2012 - www.parliament.uk/documents/commons-vote-office/4.DWP-Changes-to-the-automatic-enrolment-timetable.pdf

¹⁴ Band earnings denotes the minimum level of earnings that must be eligible for contributions in order to satisfy the auto-enrolment legislation. The Pensions Act 2011 set the earnings threshold above which every worker should be auto-enrolled at £7,475 in 2011/12. Contributions become payable on band earnings over £5,715 in 2010/11 and up to a limit of £38,185.

¹⁵ Ministerial Statement 25 January 2012 - www.parliament.uk/documents/commons-vote-office/4.DWP-Changes-to-the-automatic-enrolment-timetable.pdf

contribution of 3% of band earnings, the employee contributes at 4% with further contributions of 1% of band earnings from the Government in the form of tax relief.¹⁶

The case studies are based around 2 individuals with the following characteristics:

Box 1: A median earning man (aged 25 in 2012)

- He is aged 25 in 2012 and initially earns £20,000 (in 2011 earnings terms).
- Throughout his working life he earns at median age-specific earnings for a man.
- He is an owner occupier.
- He retires at age 68 in 2055 with a salary of £22,000 a year in 2011 earnings terms.
- Between the ages of 30 and 68, he and his employer contribute to a Defined Contribution (DC) private pension.

Box 2: A median earning woman (aged 25 in 2012)

- She is aged 25 in 2012 and earns initially £18,000 (in 2011 earnings terms).
- During her years of full-time work she earns at median age-specific earnings for women.
- Between the ages of 30 and 35 she takes time out of work to care for her children during which time she qualifies for six years of National Insurance credits toward her State Pension
- When she returns to work she works part-time for two years (50% of full-time earnings).
- She returns to work full time until she is 55, then she takes two years out of work to care for her mother (and qualifies for two more years of National Insurance credits). She returns to work at 57, working part-time for the first two years before returning to work full time until SPA.
- During her employment after age 30, she and her employer contribute to a DC private pension when she is auto-enrolled – if earnings are below the auto-enrolment threshold she is assumed not to make contributions.
- She is an owner occupier.
- She retires at age 68 in 2055 on a salary of £19,000 a year (in 2011 earnings terms).

These individuals are designed to represent a number of common characteristics. They are not designed to be typical employees, but to highlight the effects of varying certain choices and factors.

The choices and factors considered

The aim of this research is to investigate how different choices made by individuals, and other factors such as the choices made by employers, can

¹⁶ This combination of contribution levels is for a basic rate taxpayer. For a higher rate taxpayer, the balance between employee and Government contributions could be different, or additional tax relief could be contributed.

affect the final private pension income of an individual that is received from a workplace pension. The first part considers the impact of a number of choices and factors in isolation. This enables a better illustration of the potential range of outcomes from specific choices and other factors.

The second part of the research investigates how the cumulative effect of relatively small differences can build up to a large impact on the level of private pension income.

The following choices and factors have been varied in order to investigate the impact on private pension incomes:

1. Age at which saving begins

The baseline assumption is that employees are members of the NEST pension scheme from age 30 until they retire. The alternative considered is that the employees in the case studies opt out of pension saving until age 40.

2. Different contribution rates on band earnings

The baseline assumes total employer and employee contributions of 8% of band earnings; this is the minimum level of contributions that could be made assuming that the employee remains in the pension scheme following automatic enrolment. The baseline contribution rate of 8% of band earnings consists of 3% employer contributions, 4% employee contributions and a 1% Government contribution in the form of tax relief.

The alternative scenarios consider the impact of increasing the level of contributions made to the pension schemes.

3. Different charges

The charges modelled in the baseline case reflect the charges announced for NEST, that is a charge of 1.8% on pension contributions and a charge of 0.3% on the funds under management each year. In the long term the contribution charge is to be removed, and this annual management charge (AMC) of 0.3% is used in this report to illustrate the impact of lower charges. A higher level annual management charge, of 1.5% for the first 10 years, then 1% thereafter, is used to illustrate the impact of higher charges. These are the highest charges that are allowable under a stakeholder pension arrangement.

4. Annuity market options

It is assumed for the purposes of this report that the employees purchase a single life, level annuity at retirement rather than any other retirement income product.¹⁷

¹⁷ Following the abolition, in 2011, of the requirement of individuals to purchase an annuity by age 75 there is greater choice in retirement income products. However, for the purpose of this report it is assumed that the individuals considered in the case studies do purchase annuities.

There is a range of annuity rates offered by different annuity providers. The choice of annuity provider can therefore affect the level of private pension income that an employee receives. The research in this report is based on the difference between best and worst rates on the Money Advice Service comparison tables. In order to project the impact of the different rates being available in the future it is assumed that the spread of rates in the future is broadly the same as that available today.

The best rate offered gives an income stream that is around 4.5% higher than the median, which is in turn around 7% higher than the income provided by the annuity with the lowest rate.¹⁸ The baseline used in the modelling for this report is for a median level annuity. In practice the variation observed for specific individuals, particularly those eligible for an enhanced annuity, can be much greater.

5. Using a lump sum to provide a retirement income rather than spending or saving it.

Members of pension schemes are able to take a tax free lump sum from their pension scheme at retirement of up to 25% of the pension fund. The baseline scenario assumes that the individual takes 25% of the final pension fund as a tax free lump sum and annuitises the remaining 75% of the fund. As an alternative scenario, this report also considers the impact of the whole of the pension fund being taken as an income.

6. Different effect of retiring before or after SPA.

Working life can affect the amount of private pension income payable. Retiring early reduces the number of contributions that have been paid into the fund, reduces the period over which investment returns are built up, and increases the cost of an annuity due to the longer expected period in payment. Working beyond retirement age can have the opposite effect and is likely to increase private pension income.¹⁹

The baseline assumes retirement at SPA but alternative scenarios consider the impact of retiring before or after SPA.

The impact of the volatility of investment return levels is not considered in this paper as the focus is on choices rather than fund performance. However, in reality fund performance will be a key determinant of the final level of pension income of an individual.

¹⁸ Annuity rates were accessed on the Money Advice Service website on 6 June 2011.

tables.moneyadviceservice.org.uk/Comparison-tables-home/Annuities/Compare-Annuities/

¹⁹ The modelling assumes that other factors that could affect the annuity rates (such as changes in life expectancies and interest rates) are not changed in the years around SPA. In reality, such factors could mean that the annuity rates achieved by delaying retirement could be higher or lower than those used here.

Chapter two: the impact of choices and other factors on private pension income

This chapter considers how private pension income of the case study individuals set out in Chapter 1 can be affected by different choices and factors, and also the potential impact of the different choices and factors on the adequacy of income in retirement. Chapter 3 sets out the cumulative impact that a number of choices and factors can have on private pension income of an individual in retirement.

Retirement income for the median earning man and woman

Boxes 3 and 4 present the income at retirement for the two individuals set out in Chapter 1 under a set of baseline assumptions:

- The individuals are both eligible for the Government's single tier state pension
- Employees are auto enrolled into NEST from age 30.
- Employees and employers make minimum auto-enrolment contributions of 8% of band earnings.
- Contributions to NEST are subject to a charge of 1.8%.
- An annual management charge of 0.3% is applied to the pension fund.
- Employees retire at their state pension age (SPA).
- At retirement, employees take 25% of their pension fund as a tax free lump sum.
- The remaining fund is converted into a fixed income at the projected median rate available in the annuity market.

Box 3: a median-earning man, aged 25 in 2012

- His single tier state pension at retirement is £8,150 per year in 2011 earnings terms, this is 36% of his final salary (as calculated as the average salary over the five years before retirement).
- He and his employer contributed 8% of band earnings into NEST between ages 30 and 68.
- His private pension pot size at SPA, after taking a 25% tax-free lump sum is £60,000 in 2011 earnings terms.
- Using his private pension fund he is able to purchase a level annuity at retirement which provides an income of £4,100 a year in 2011 earnings terms, this is 18% of his average salary over the five years before retirement.
- His total gross income at retirement is £12,280 a year. This represents a replacement rate of 54% of pre-retirement income.

Box 4: a median-earning woman, aged 25 in 2012

- Her single tier state pension at retirement is £8,150 per year in 2011 earnings terms, this is 42% of her final salary (as calculated as the average salary over the five years before retirement).
- When she is employed and auto-enrolled she and her employer contribute 8% of band earnings into NEST.
- Her private pension pot size at SPA, after taking a 25% tax-free lump sum is £30,000 in 2011 earnings terms.
- Using her private pension fund she is able to purchase a level annuity at retirement which provides an income of £1,910 a year in 2011 earnings terms, this is 10% of her average salary over the five years before retirement.
- Her total income at retirement is £10,090 a year. This represents a replacement rate of 52% of pre-retirement income.

Income in retirement can be improved by some factors

Chart 5 illustrates the factors and choices that can boost the private pension income levels for the median earning man.²⁰

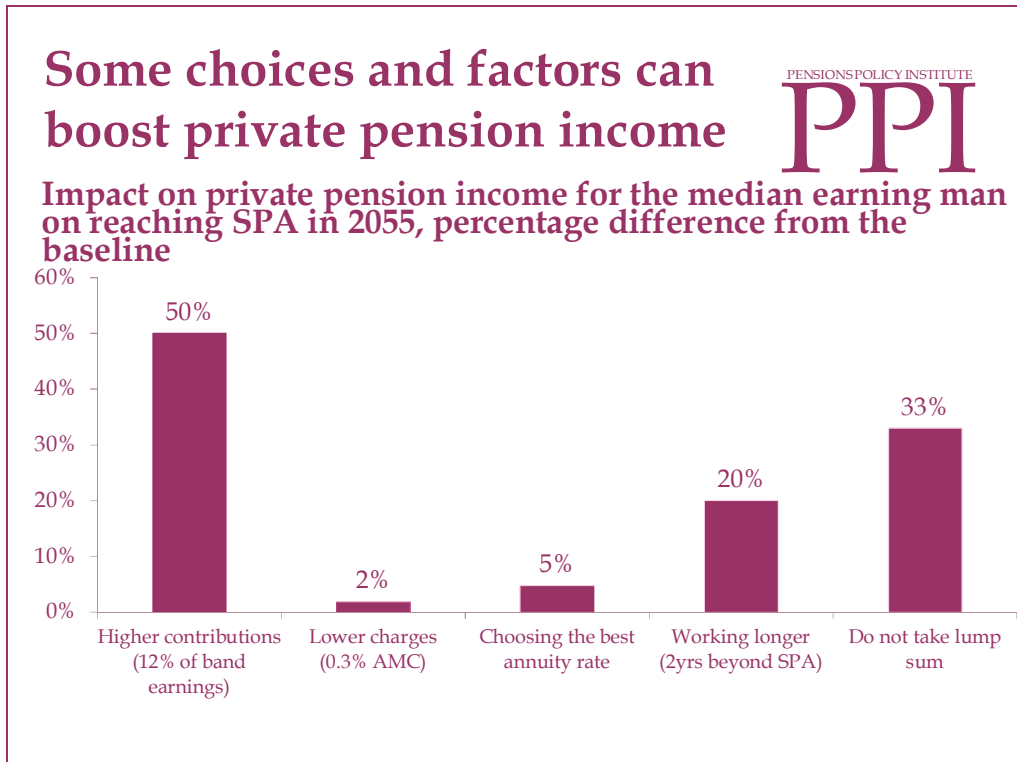
Making higher contributions can have a large impact on post retirement income. Increasing combined employee and employer contributions (including the Government contribution in the form of tax relief) from 8% to 12% of band earnings can increase the private pension income of the male employee by 50%. This represents an increase of the private pension income of £2,050 a year in 2011 earnings terms and increases the replacement rate from 54% to 63% of pre-retirement earnings.

Working two years beyond state pension age and continuing to make contributions can increase the private pension income of an individual by around 20%. Working longer leads to a larger fund because there are two further years of investment returns and contributions. Also, with all other things remaining equal, the cost of an annuity is likely to be reduced because the pension is expected to be paid for a shorter time. As a result of these factors, working longer can lead to a higher private pension income.

If the pension fund removes the 1.8% charge on contributions, then the resulting fund becomes proportionally higher. The overall effect is that the final private pension income to an individual is around 2% higher.

²⁰ Detailed tables of results are in Appendix C

Chart 5²¹



If the entire pension fund is annuitised with no lump sum being taken then the resulting income is around 33% higher than if the lump sum is taken. This analysis only considers what the member may wish to do if their aim is to maximise private pension income. There are many reasons why a pensioner may choose to take the lump sum. For instance, the lump sum is paid tax free, whereas the annuity is taxed as income, taking a lump sum may therefore be a tax efficient way to receive the proceeds of the pension fund. The lump sum may be used to pay off debt, for example a mortgage. Paying off debt may reduce the pensioner’s ongoing expenditure requirements and mean that a higher standard of living can be achieved for a given income.

Shopping around for an annuity can increase private pension income. The median earning man can increase his private pension income by 5% if he receives the best annuity rate rather than the median annuity rate. The assumption underlying the results in this paper is that the default annuity offered within the pension scheme is in line with the median annuity rate on the Money Advice Service tables. The actual improvement in private pension income that an individual may be able to obtain will depend on how the terms of their pension’s default annuity compare with those offered in the annuity open market at the time they retire.

²¹ PPI modelling

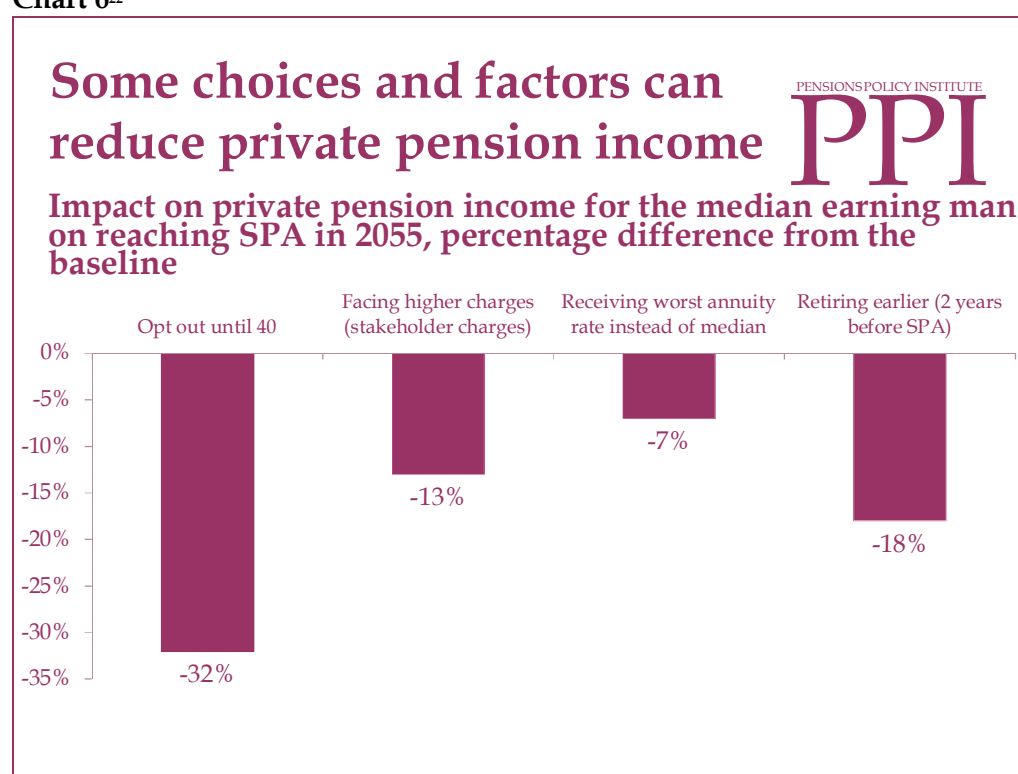
Median earning woman

For the median earning woman, the potential increases in private pension income that may be attained are similar to those possible for the median earning man. Working longer has a slightly larger impact for the woman than for the man. This is because the woman has a broken career history earlier in her life compared with the unbroken two extra years after SPA.

Some choices could result in lower private pension income

Charts 6 and 7 illustrate the choices of employees and employers that can lead to a reduction in the private pension income levels for the median earning man and woman respectively.

Chart 6²²



Opting out of private pension savings from age 30 until age 40, could reduce the pension income by around a third, compared with saving from age 30.

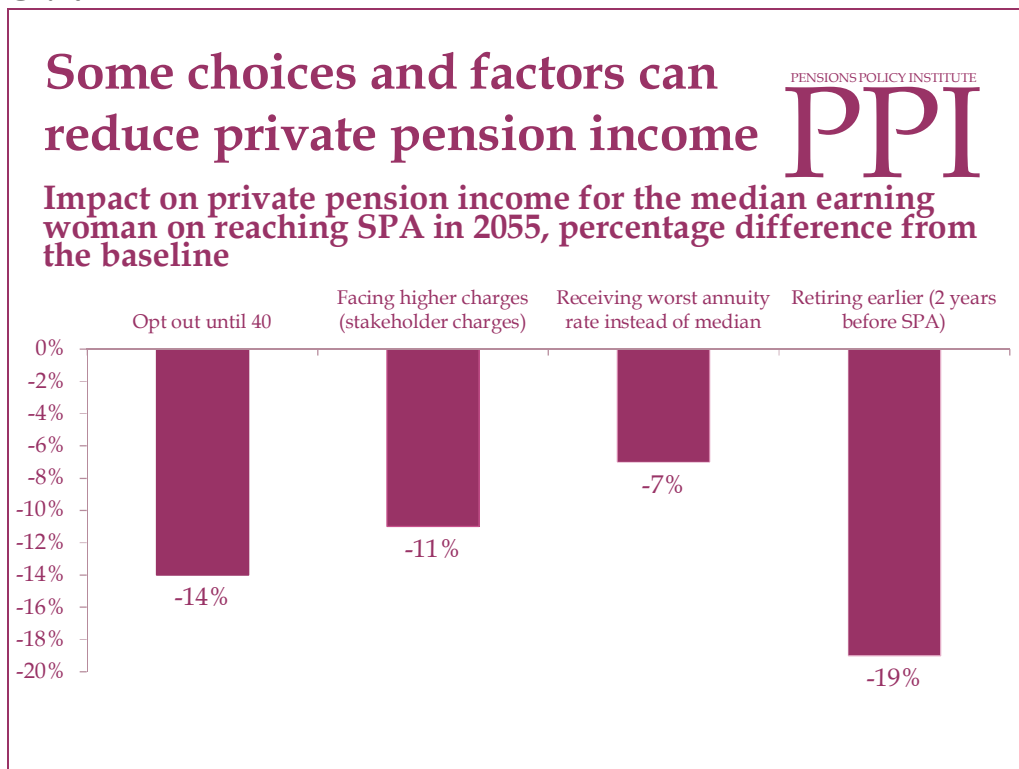
Retiring earlier can reduce private pension income. Retiring 2 years before SPA could reduce the private pension income of the median earning man by 18%. There are two reasons for the decrease. Firstly, the fund is smaller because of the fewer years of contributions and investment returns, and secondly, the annuity is generally more expensive when people retire younger because the expected period in which it would be in payment is longer.

²² PPI modelling

If the employee takes the lowest annuity rate on the Money Advice Service tables to convert their pension fund into an income at retirement, this could lead to a reduction in the private pension income of around 7% when compared with the median annuity rate on the Money Advice Service tables.

Higher charges on the pension scheme can erode the fund. The difference between the maximum allowable charges on a stakeholder pension scheme of an AMC of 1.5% for ten years and 1% thereafter, compared with the NEST charging structure of a 0.3% AMC and a 1.8% charge on contributions could lead to a reduction in the private pension income for the median earning man of around 13%.

Chart 7²³



Opting out of pension saving from age 30 until age 40 has a smaller impact on private pension income for the median earning woman than it does for the median earning man. This is because the median earning woman is already assumed to care for children from age 30 to 35, so opts out from fewer years of pension saving than the median earning man.

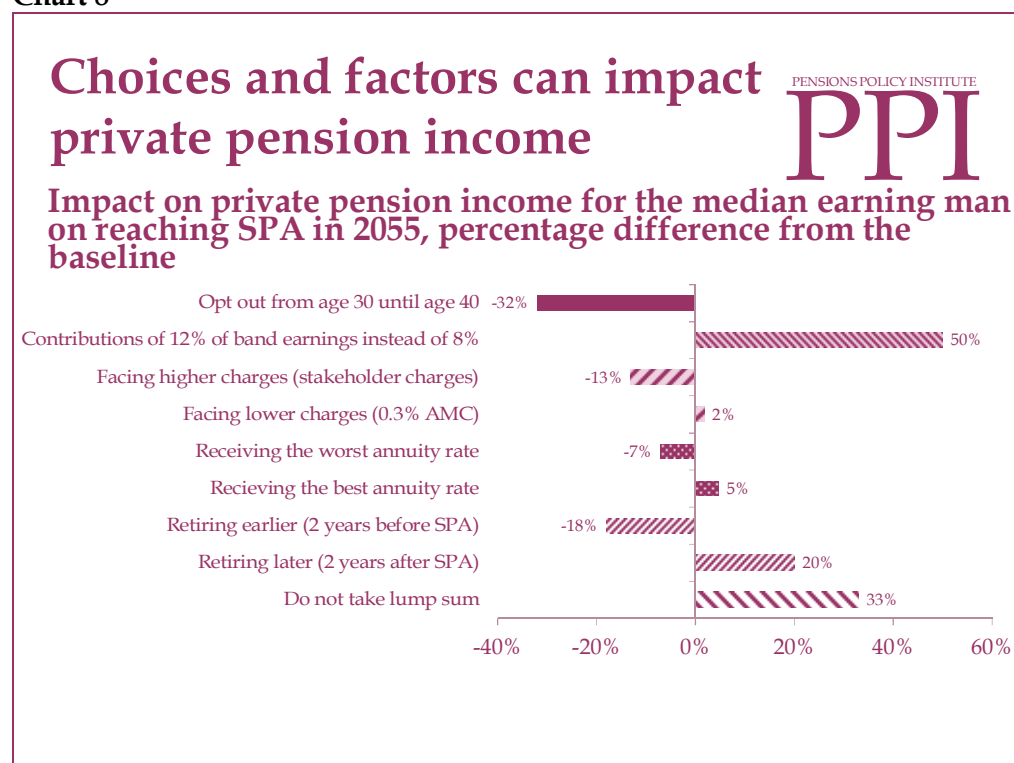
Increasing the level of management charges reduces the amount of money in the pension fund at retirement. The effect of the change in the management charge is compounded for every year of saving. The impact is therefore greater on the median earning man, who starts saving at an earlier age than the median earning woman. Under the higher stakeholder style charges, the

²³ PPI modelling

median earning man's private pension income falls from £4,100 to £3,580 a year, a reduction of 13%; the median earning woman's private pension income falls from £1,940 to £1,710 a year, a reduction of 11%.

Charts 8 and 9 compare the choices and factors that can reduce private pension income with those which can increase private pension income for a median earning man and median earning woman respectively.

Chart 8²⁴



For the median earning man (Chart 8).

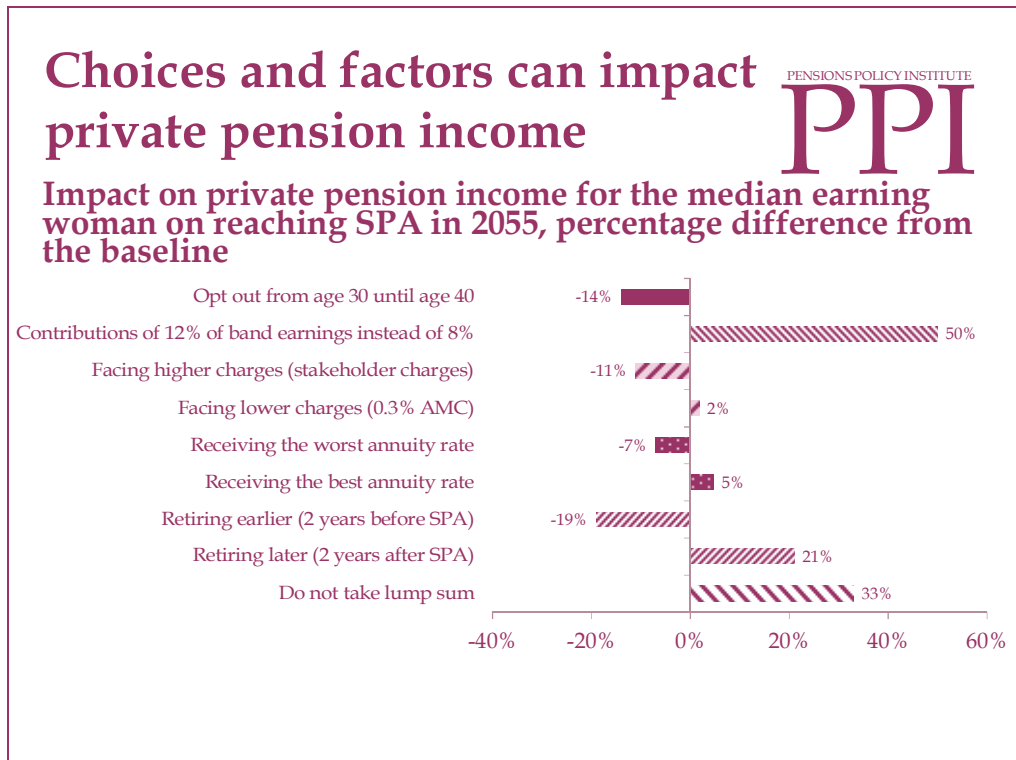
- Saving a total of 12% of band earnings (rather than the 8% of band earnings minimum under auto-enrolment, and above the current average for a DC occupational scheme of 6% employer contributions and 3% employee contributions²⁵) into a DC private pension can increase private pension income by 50%;
- Retiring 2 years after state pension age and continuing to save in that time has a positive two-fold effect through saving more and deferring annuity purchase and can enhance private pension income by 20%; and,
- Opting out between the ages of 30 and 40 and starting to save ten years later can reduce private pension income by 32%.
- Retiring 2 years before state pension age and starting to draw down the pension can reduce private pension income by 18%.

²⁴ PPI modelling

²⁵ ONS (2011)

The extent of the impacts of related choices and factors on the median earning woman is similar for that of the median earning man. However, the impact of opting out between age 30 and age 40 is lower for the median earning woman (Chart 9). This is because the median earning woman is already assumed to care for children from age 30 to 35, so opts out from fewer years of pension saving than the median earning man.

Chart 9²⁶



²⁶ PPI modelling

Replacement Rates

Levels of adequacy are often measured using a working life replacement rate. The replacement rate is the percentage of pre-retirement earnings that an individual will receive in income after they have retired. The first report of the Pensions Commission set out suggested target replacement rates by gross earnings level. Table 1 sets out the Pensions Commission target replacement rates with earnings uprated to 2011 earnings terms.

Table 1: Benchmark replacement rates in 2011 Earnings Terms²⁷

Earnings	Benchmark replacement rate
Less than £12,000	80%
£12,000 - £21,499	70%
£21,500 - £30,500	67%
£30,500 - £61,000	60%
Over £61,000	50%

This paper considers gross replacement rates in order to maintain consistency with the Pensions Commission target rates, and the analysis in this report is based on a replacement rate which calculates final salary using the average salary in the five years before retirement.²⁸

Under the baseline assumptions used in this report (that is making the minimum level of contributions to NEST, retiring at SPA, taking the projected median level annuity rate, and taking the 25% tax free lump sum) neither the median earning man, nor the median earning woman receive an income in retirement that will allow them to achieve their target replacement rate (Chart 10).

- The median earning man's target replacement rate is 67% of earnings, he achieves a replacement rate of 54%. This represents a shortfall of 13%.
- The median earning female has a target replacement rate of 70%, she achieves a replacement rate of 52%. This represents a shortfall of 18%.

²⁷ PPI calculations based on Pensions Commission (2004)

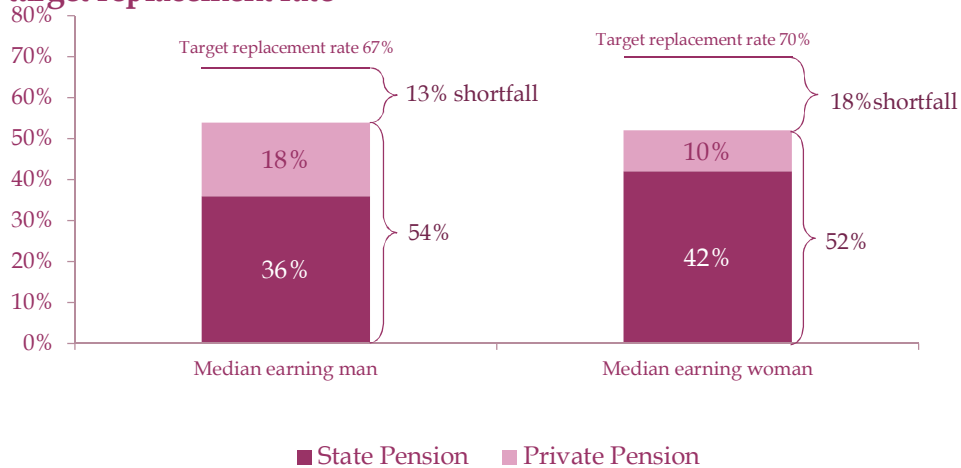
²⁸ See Appendix B for further information

Chart 10²⁹

Median earners could fall short of their target replacement rate if auto enrolled into NEST at minimum contribution levels



Replacement rate at retirement for a median earning man and woman reaching SPA in 2055, split by source and compared with target replacement rate



Both the woman and the man receive the same level of single tier state pension income of £8,150 a year (in 2011 earnings terms). This accounts for a larger replacement rate for the woman than for the man. The woman has lower pre-retirement earnings than the man, so the state pension is able to replace a higher proportion of that lower income level.

The woman has a lower replacement rate from her private pension than the man. This is largely due to her interrupted work history. She is caring for family members for a number of years during which she is not contributing to a workplace pension.

The man is contributing to his workplace pension from age 30 until he retires at age 68, leading to a higher proportion of his pre-retirement earnings being replaced by his workplace pension.

Replacement rates could be met by using other assets or sources of retirement income

Other sources of post retirement income may enable individuals to meet their replacement rate, these include:

- Working longer
- Non-pension savings
- Housing wealth

²⁹ PPI modelling

However the ability to work longer may depend on the health of the individual before and after SPA, whether they have other responsibilities (such as caring) and the availability of appropriate employment.

Non-pension savings are more likely to be held by higher earners. In order to have savings in retirement, the individual must have been able to put aside surplus income before retirement.³⁰

Individuals who own their home do not have to pay rent and may therefore have lower income needs in retirement. They may be able to access some of their housing wealth either by downsizing, where they would sell their home and purchase a cheaper home in which to live, or by purchasing an equity release product. However emotional attachment to their home and the appearance of high charges associated with equity release product may dissuade them from using their home to boost income.³¹

Impact of the choices and factors on the replacement rate

The impacts on the replacement rate of the factors which could increase private pension income for a median earning man and a median earning woman are set out in Charts 11 and 12 respectively.

Chart 11 shows the impact on the replacement rate of making specific changes that can increase income in retirement for a median earning man. Each bar shows the replacement rate if a single factor is altered from the baseline scenario set out earlier in this chapter. The chart shows that none of the changes in isolation is adequate to achieve the target replacement rate. Making higher total employer and employee contributions (including the Government contribution in the form of tax relief), up to the level of 12% of band earnings has the highest single impact of any of the choices and factors considered, increasing the replacement rate to 63% of gross pre-retirement earnings. However this still falls 4% short of the target replacement rate of 67% of pre-retirement earnings.

³⁰ PPI (2009a)

³¹ PPI (2009b)

Chart 11³²

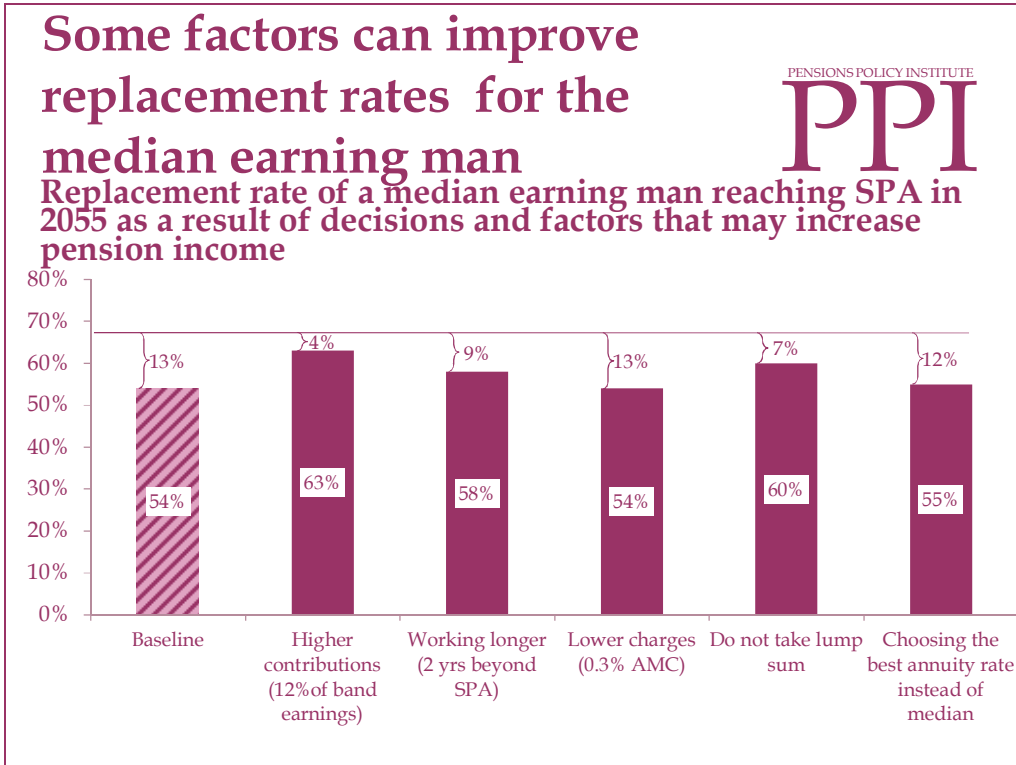
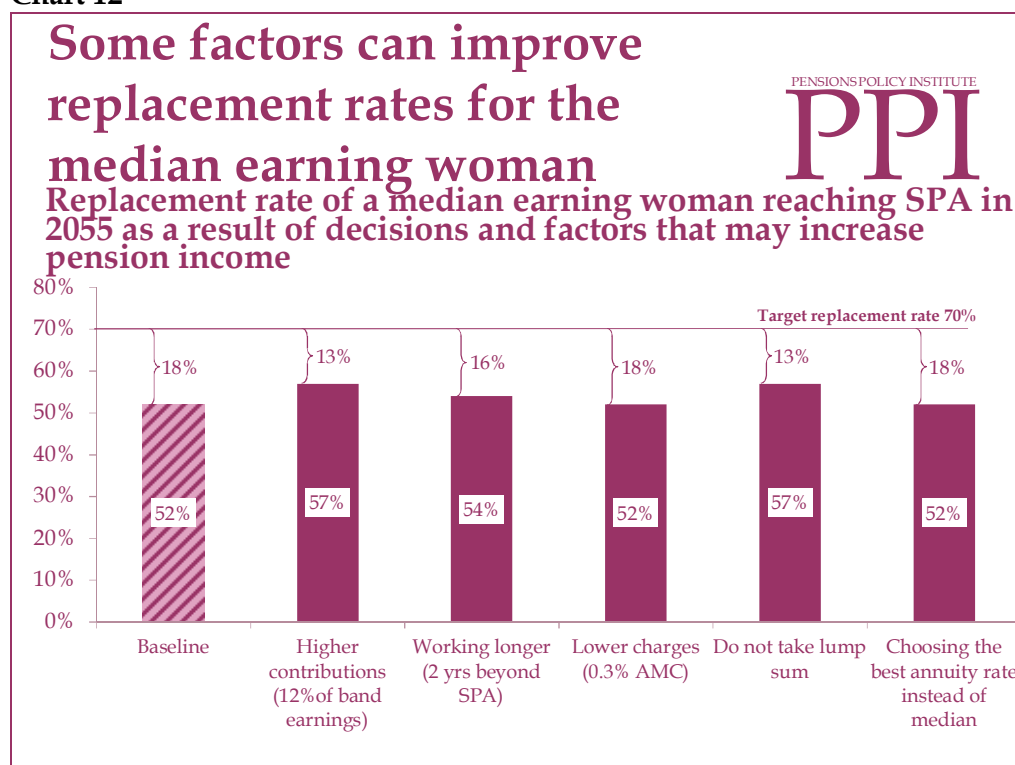


Chart 12 shows the impact on the replacement rate of making specific changes that can increase income in retirement for a median earning woman. As with the median earning man, this chart shows that none of the changes in isolation are adequate to enable the median earning woman to achieve her target replacement rate.

The target replacement rate for the median earning woman is higher than that for the median earning man, and the replacement rate achieved tends to be lower as a result of her broken work history. These two factors mean that the median earning woman has a greater shortfall in meeting her target replacement rate.

³² PPI modelling

Chart 12³³

For example if the median earning woman makes higher total employer and employee contributions (including the Government contribution in the form of tax relief), up to the level of 12% of band earnings, she may attain a replacement rate of 57% of gross pre-retirement earnings, however, this still falls 13% short of the target replacement rate of 70% of pre-retirement earnings.

Having a lower private pension income means that the median earning woman is more reliant on the state pension. Only 10% of the 52% replacement rate is attributable to her private pension, the other 42% is from state pension. Changes in the amount of her private pension therefore have a smaller impact on her total pension and therefore on her replacement rate. This is why facing lower charges and choosing the best annuity rate have very little impact on the overall replacement rate.

The impacts on the replacement rate of the factors which could reduce private pension income for a median earning man and median earning woman are set out in Charts 13 and 14 respectively.

Chart 13 shows the impact on the replacement rate of making specific changes that might reduce income in retirement for a median earning man. Each bar shows the replacement rate if a single factor is altered from the baseline scenario set out earlier in this chapter. The two choices that have the largest

³³ PPI modelling. The increase in employee contributions includes an extra Government contribution of 0.4% in the form of tax relief.

detrimental impact on the replacement rate are opting out from age 30 to age 40 and taking early retirement. For example, opting out between age 30 and age 40 reduces the replacement rate by 6% leading to a 19% shortfall from the target replacement rate.

Chart 13³⁴

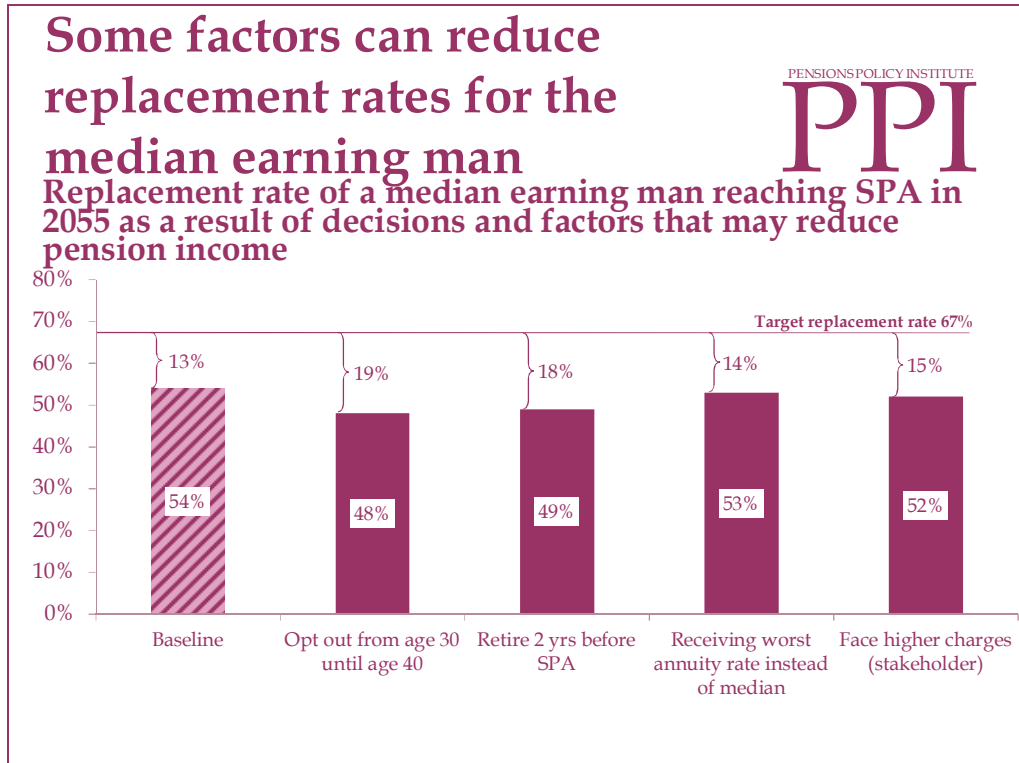
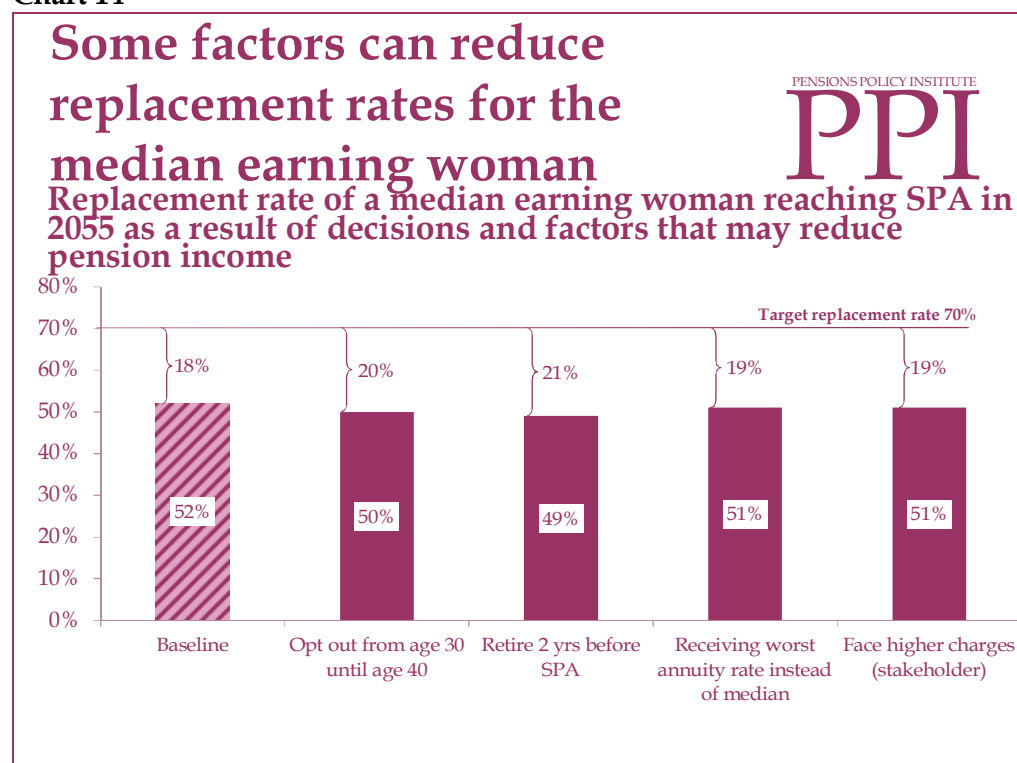


Chart 14 shows the impact on the replacement rate of making specific changes that might reduce income in retirement for a median earning woman. Each bar shows the replacement rate if a single factor is altered from the baseline scenario set out earlier in this chapter. The two choices that have the largest detrimental impact on the replacement rate are opting out from age 30 to age 40 and taking early retirement. For example, retiring 2 years before SPA reduces the replacement rate by 3% leading to a 21% shortfall from the target replacement rate.

³⁴ PPI modelling

Chart 14³⁵

Step change approach to differences

Table 2 sets out the impact on the private pension and retirement income of making unit step changes in the choices and factors faced by the median earning man.

Table 2: Ready Reckoner approach to scenarios

Scenario	Impact on private pension income	Impact on replacement rate
1% higher contributions ³⁶	+ 13%	+ 2%
1% higher AMC charges	- 19%	- 3%
Start saving 1 year later	- 3%	- 1%
Retire 1 year later	+ 6%	+ 2%

The magnitude and the impact of a change is not a strictly linear relationship for some of the scenarios. In particular, the impact of charges has a “compounding” effect on private pension income and the replacement rate, so a charge that is twice as large can have more than twice the impact on income.

³⁵ PPI modelling

³⁶ Higher contributions may consist of employer contributions, employee contributions, Government contributions in the form of tax relief, or some combination of all three.

The broad ready reckoner approach used here is only valid for relatively small changes in charges (less than +/- 1%).

Overcoming the impact of opting out, higher charges, and lower annuity rates

Based on this ready reckoner approach, it is possible to consider the amount of additional contributions that an employee could make in order to counteract some of the choices and factors which reduce private pension income. All figures are in 2011 earnings terms.

Overcoming the impact of opting out

If the median earning man opted out of auto-enrolment until age 40, and thereafter he and his employer made minimum auto-enrolment contributions of 8% of band earnings into NEST, he might have a pension pot on retirement of £40,600.³⁷ Had he been saving in the pension scheme from age 30, he could have had a pension pot at retirement of £59,500, 47% higher. If he starts saving for his pension at age 40 but wishes to make additional contributions to the pension scheme in order to achieve the pension pot of £59,500, he might have to increase his pension contributions by around 4% of band earnings for the rest of his working life.

Overcoming the impact of high charges

A median earning man is auto enrolled from age 30 into a DC pension scheme with maximum stakeholder charges; he and his employer made minimum auto-enrolment contributions of 8% of band earnings. He could have a pension pot at retirement of £52,000. If he had been in a scheme with an annual management charge of 0.3%, in line with the long term aim for charges in NEST, his pension fund at retirement might be £60,600, 17% higher. If he wishes to make additional contributions to increase his pension pot from £52,000 to £60,600 in the original DC scheme he might have to make additional contributions of around 1.5% of band earnings for the rest of his working life. Alternatively he could retire 3 years after his state pension age.

Moving from the lowest annuity rate to the highest annuity rate

Using the worst annuity rate on the Money Advice Service tables to convert the pension pot into an income results in a pension around 12% lower compared to using the best annuity rate on the Money Advice Service tables. For a median earning man who is auto-enrolled into NEST at minimum auto-enrolment contributions of 8% of band earnings this is equivalent to making additional contributions of around 1% of band earnings for the rest of his working life. Alternatively he could retire 2 years after his state pension age.

³⁷ This assumes investment returns of 6% a year. This is a standard assumption about future investment returns used for modelling purposes only; it does not constitute a prediction about future events.

Chapter three: the cumulative impact of choices and other factors on private pension income

This chapter considers the cumulative impact of a number of choices and other factors being made together on the median earning man's private pension income.

The analysis in this chapter considers a number of binary changes which are all initially assumed to be made in such a way as to provide the lowest initial pension income to an individual. Each change is then progressively reversed in order to provide a higher pension income to an individual. The changes are set out in Table 3.

Table 3: Choices and other factors used in the analysis of cumulative impact on private pension income

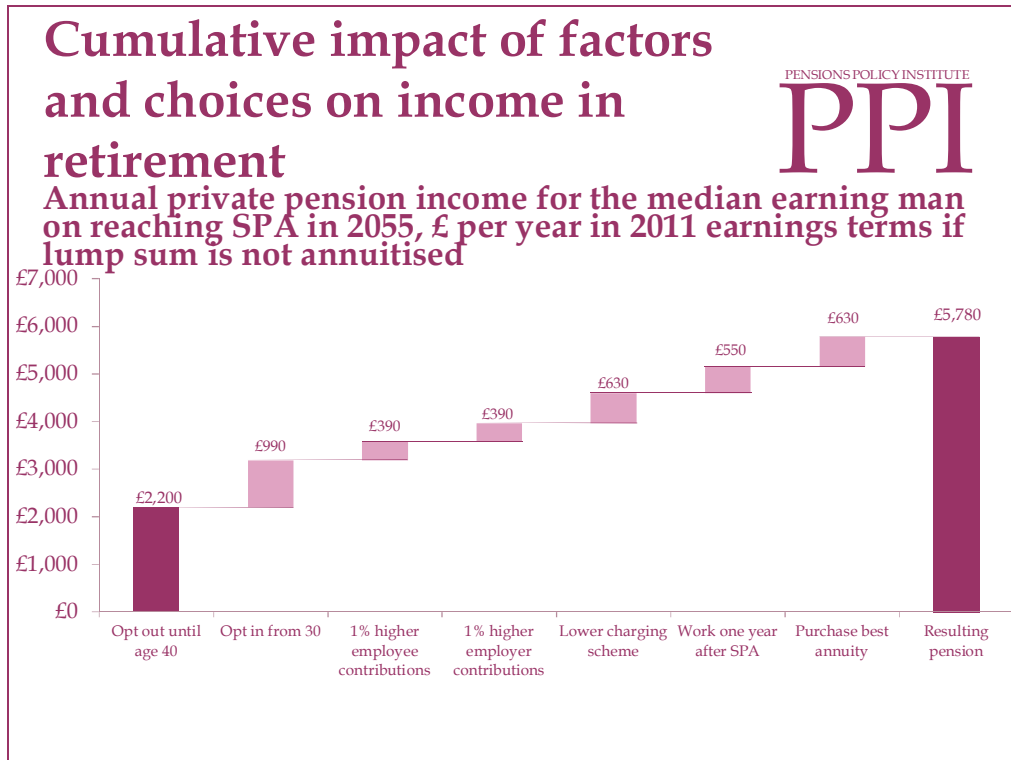
Choices and factors	Choices and factors which are likely to lead to a lower pension income (A)	Choices and factors which are likely to lead to a higher pension income (B)
Membership of pension scheme	Opt-out until age 40	Remain auto enrolled from age 30
Employee contributions	Minimum employee contributions of 4% of band earnings plus 1% Government tax relief	An additional 1% combined contribution, of which 0.8% comes from the individual and 0.2% from Government tax relief
Employer contributions	Minimum employer contributions of 3% of band earnings	4% of band earnings, that is, minimum employer contributions plus an additional 1%
Scheme charges	Stakeholder annual management charge of 1.5% for first 10 years, 1% thereafter	Long-term NEST annual management charge of 0.3%
Working life	Retire at age 67, one year before SPA	Retire at age 69, one year after SPA
Conversion of pension fund into an annuity	Convert pension fund using the lowest rate on Money Advice Service annuity comparison tables	Convert pension fund using the highest rate on Money Advice Service annuity comparison tables

It is assumed that the median earning man initially makes the choices and is subject to the factors set out in column A. He is also assumed to take 25% of

his pension fund of £47,000 as a tax free lump sum at retirement (£11,800).³⁸ This results in an annual private pension income of £2,200. Chart 15 shows how this pension income is increased cumulatively by changing choices and factors one after another.

The order of the presentation can affect the impact of the changes. Changes which are presented later operate on a larger level of pension and may therefore appear to be of more importance than those which are presented earlier. There is no correct order for presenting the cumulative results. In order to be objective the impact of these changes is presented in broadly chronological order, for example the first choice is when to join the pension scheme, and the final choice is which annuity to purchase. Chart 15 shows the cumulative impact of the changes made for a median earning man.

Chart 15³⁹



In Chart 15 the median earning man is initially assumed to make choices and be subject to other factors as set out in column A of Table 3. He:

- is opted out of pension saving until age 40,
- contributes with his employer at the minimum level for auto-enrolment from age 40 to when he retires,

³⁸ The amount of the lump sum that can be taken depends on the pot size. The employee who makes choices and is subject to factors which increase their pension fund would be able to take a higher lump sum. In the example above the employee can initially take a lump sum of £11,800, however, after opting in from age 30, both he and his employer making higher contributions, having lower scheme charges and working one year past SPA, the lump sum that he could take has increased to £25,900.

³⁹ PPI modelling. The 1% increase in employee contributions includes an extra Government contribution of 0.2% in the form of tax relief.

- is subject to maximum stakeholder level charges,
- retires one year before his SPA, and
- receives the worst value annuity in the Money Advice Service tables.

As a result of these choices and factors, his private pension income is £2,200 a year.

However different choices and factors throughout working life can have a positive impact and can cumulatively lead to a significantly increased private pension income. For example, if the median earning man:

- remains auto enrolled into pension saving from age 30, his private pension income is increased by £990 a year;
- in addition contributes an extra 1%⁴⁰ of band earnings, as does his employer, his private pension income is increased by a further £780 a year (2 times £390);
- in addition is in a scheme subject to low charges, his private pension is increased by a further £630 a year;
- in addition works an extra year after his SPA, his private pension is increased by a further £550 a year; and
- in addition shops around for an annuity, his pension is increased by a further £630 a year.

If the median earning man is assumed to make the choices and be subject to the other factors set out in column B of Table 3 his resulting private pension income could be £5,780 a year compared to £2,200 a year if he had made the choices in column A of Table 3. He could therefore have a private pension income that is two and a half times the pension of a median earner who does not make these choices or have the benefit of low charges and a higher employer contribution.

Some of these choices which may be expected to increase private pension income can be made by the employee. Some of the employee choices incur some form of hardship on the employee, for example, making higher contributions reduces money that can be spent now and working past SPA reduces time in retirement. However some of the employee's choices such as shopping around for a good annuity rate do not require the same level of self-sacrifice.

There are also factors that affect the final private pension income that may be difficult for an employee to influence, for example persuading the employer to increase contributions or to change the scheme to one with a lower charging structure. These are not under the direct control of the employee and tend to be the result of choices made by the employer.

⁴⁰ The 1% increase in employee contributions includes an extra Government contribution of 0.2% in the form of tax relief.

Income can be increased by annuitising the entire pension fund

An individual who wishes to further increase his private pension income could convert the entire pension fund into a private pension income rather than taking a 25% tax free lump sum. Chart 16 shows the cumulative impact on private pension income of an individual whose circumstances change from column A to column B of Table 3 but who also chooses to annuitise the lump sum.

Chart 16⁴¹

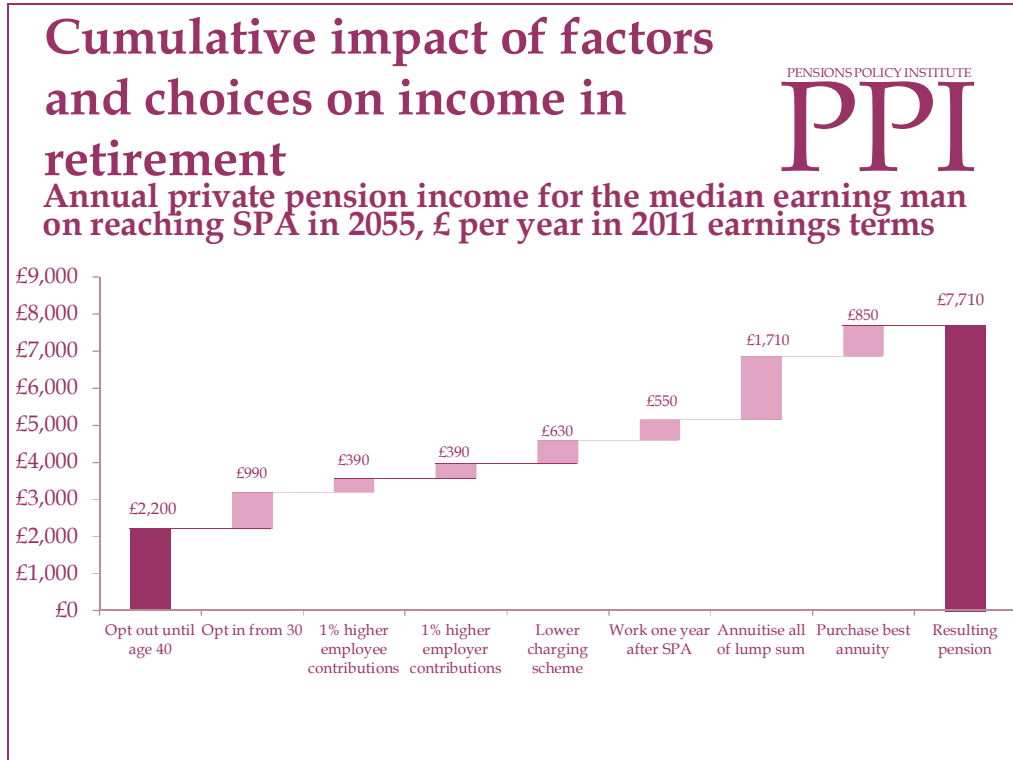


Chart 16 shows that a median earning man who remains auto enrolled into pension saving from age 30; contributes an extra 1% of band earnings, as does his employer; is in a scheme subject to low charges; works an extra year after his SPA; annuitises his lump sum and shops around for an annuity could have a private pension income that is three times the private pension income of a median earner who does not make these choices or have the benefit of low charges and a higher employer contribution.

Converting the entire pension fund to an income rather than taking the lump sum can have a large impact on the size of pension income of an individual. However, there may be good reasons to take the lump sum, for example it may be more tax efficient or the individual could pay off debts which would reduce future income requirements.

⁴¹ PPI modelling. The 1% increase in employee contributions includes an extra Government contribution of 0.2% in the form of tax relief.

Appendix A: Modelling assumptions

Individual modelling

The PPI's individual model uses individual characteristics and working patterns to project income in retirement from private pensions, state pensions and other benefits for hypothetical individuals.⁴²

Assumptions

Detailed assumptions have been made about the individuals' working and saving behaviours and these are described in the boxes in the document. Unless otherwise stated, the modelling assumes:

- Long-term increases in the Retail Prices Index (RPI) of 2.87%.
- Long-term increases in the Consumer Prices Index (CPI) of 2%.
- Future annual earnings growth of 4.5%, in nominal terms.
- Expected investment returns of 3.0% in excess of prices, before charges, (corresponding to a nominal rate of 6%) representing a mixed equity/bond fund.

These assumptions are the result of consultation between the PPI and the PPI's modelling review board. The modelling review board consists of a number of experts in the field of financial modelling.

The annuities used to convert private pension savings into a retirement income are based on the following assumptions:

- Mortality is in line with the PxA92 actuarial tables, adjusted for year of birth and assuming medium cohort mortality improvements.
- The investments underlying the annuities provide a return of 3.9% a year.
- Individuals take single life, level annuity unless otherwise stated.
- There is assumed to be a one off expenses charge of 4% of the fund value on the purchase of an annuity.

For simplicity of explanation and the lack of a standard countrywide council tax rate, the results ignore council tax benefit.

In addition to the standard assumptions of the PPI individual model we made the following assumptions regarding the implementation of the single tier pension.

Single tier pension assumptions

The following assumptions are used in order to model the single tier pension system

- Date of introduction is assumed to be 2016. This is the first date in the next parliament that this could happen, assuming a May 2015 General Election.
- The single tier pension is assumed to apply to new retirees only.

⁴² For more information on the Individual Model, see PPI (2003)

- The single tier is expressed as £140 in 2010 earnings terms. This is assumed to increase in line with earnings until introduction in 2016, thereafter in payment it is assumed to increase in line with the triple-lock.
- Triple-lock is 0.26% above earnings growth. Based on historic data, a measure which is the higher of growth in average earnings, the consumer prices index and 2.5%, would be equivalent to an average annual increase of 4.76% in nominal terms.
- Men and women’s SPA is equalised at 65 in 2018, then increased to 66 by 2020. SPA is assumed to have increased to 68 by the time the case studies reach SPA in 2055 in line with current legislation.
- Any state pension income up to £140 per week is indexed by the triple-lock, and any excess over £140 is indexed by CPI.
- Income offsets to the state pension as a result of building up pension in a private pension scheme which is contracted out of SERPS/S2P are assumed to be based on Contracted Out Deductions
- Saving Credit is assumed to be abolished for new pensioners from 2016 – and continues as expected (not frozen after 2014) for existing pensioners

Increasing employee contributions

When an employee increases their contributions to a pension scheme there is also a proportionate increase in the amount of tax relief paid into the pension scheme. This paper presents increased contributions as the total increase in contributions (including their own contributions and Government tax relief) that the employee has been able to effect into their pension scheme by increasing their contributions.

The following table sets out the breakdown of the employee contributions and tax relief in the scenarios presented:

Table A1: Breakdown of employee contributions and tax relief under increasing contributions scenarios

	Baseline	1% Higher employee contributions	2% Higher employee contributions
Employee contribution	4%	4.8%	5.6%
Tax relief	1%	1.2%	1.4%
Total combined employee contribution and tax relief	5%	6%	7%

Appendix B: Baseline modelling compared with Pensions Commission modelling

Modelling carried out by the PPI for the NAPF updates some of the figures calculated by the Pensions Commission in 2004. There are a number of differences between the modelling assumptions used by the PPI and the Pensions Commission. These differences have an impact on the reported replacement rates and may therefore affect the interpretation of the adequacy of pension saving. Differences between PPI modelling and Pensions Commission modelling are as follows and can be characterised under three headings:

Pension System

- The Pensions Commission projections used the current two-tier state pension system with increases in the state pension being linked to increases in the Retail Prices Index. The PPI modelling for the NAPF is based on the proposed single tier pension income of £140 per week in 2010 earnings terms, which is assumed to be updated in line with the triple-lock of the higher of CPI, earnings growth and 2.5%.

Assumptions

- The Pensions Commission modelled an individual who received the median population earnings in each year of their working life. The PPI modelling uses an age related median earnings distribution, which more realistically models the pattern of earnings for an employee throughout their working life.

Behaviour

- The Pensions Commission assumed that pensioners do not take a tax free lump sum from their pension fund at retirement. Instead they are assumed to convert the whole of their pension pot into an income at retirement. The PPI modelling for the NAPF assumes in some of the examples that a lump sum of 25% of the pension pot is taken at retirement and is not converted into an income.
- The Pensions Commission assumed that on reaching retirement pensioners would take an index linked single life annuity. The PPI modelling for the NAPF has assumed that pensioners take level annuities. This is because 85% of people purchase a level annuity according to a survey by the ABI of people who purchased an annuity between January and May 2010.⁴³

Both the Pensions Commission modelling and the PPI's modelling for the NAPF assume that the employee start saving from age 30. Both sets of figures also express replacement rates in terms of gross earnings before tax and NI contributions.

⁴³ ABI (2010)

Table B1 shows that the replacement rate depends on the earnings definition used. If salary falls in the run up to retirement, then using a definition that considers only the income received in the year immediately before retirement may overstate the replacement rate. The analysis in this report is based on a replacement rate which calculates final salary using the average salary in the five years before retirement.

Table B1: Variations in replacement rate depending on definition of final salary

Change made	Median earning man	Median earning woman
Earnings in last year	56% (earnings £22,000)	53% (£19,000)
Earnings five years before retiring	52% (£23,500)	51% (£19,800)
Average over last 5 years of work	54% (£22,800)	52% (£19,400)
Earnings 10 years before retirement	48% (£25,600)	49% (£20,700)

Appendix C: Modelling results tables

Table C sets out the assumptions underlying the analysis in in Chapter 2 of the report, dealing with the impact of choices and factors in isolation. It sets out the baseline scenario as well as the low and high pension alternatives.

Table C:

Choice	Low retirement income scenario	Baseline scenario	High retirement income scenario
Age at which start pension saving	40	30	30
Total pension contributions	8% of band earnings	8% of band earnings	12% of band earnings
Charges	Stakeholder cap (1.5% for 10 years, 1% thereafter)	NEST initial charge (1.8% on contributions and 0.3% AMC)	Nest long term charges (0.3% AMC)
Annuity rate⁴⁴	8th best annuity rate	Median annuity rate	Best annuity rate
Retirement age	66	68 (SPA)	70
Lump sum taken?	25% of fund	25% of fund	No

Tables C1-C4 set out the results behind the analysis of the impact of choices and factors made in Chapter 2. The tables show a number of results:

- the annual income from the single tier state pension,
- the annual income from private pension,
- the level of the pension fund that is converted into an annuity at retirement,
- the value of the private pension income in £ per year
- the change in private pension income for each of the scenarios in both monetary and percentage terms (in brackets), and
- the total gross replacement rate as a result of the scenario, allowing for state benefits and private pension income

Tables C1 and C2 set out these results for potential choices and factors that could increase income in retirement, for the median earning man and the median earning woman respectively.

Tables C3 and C4 set out these results for potential choices and factors that could reduce income in retirement, for the median earning man and the median earning woman respectively.

The target replacement rate for the median earning man is 67% of gross earnings and the target replacement rate for the median earning woman is 70% of gross earnings.

⁴⁴ Annuity rates were accessed on the Money Advice Service website on 6 June 2011.

Table C1: The impact on post retirement income of choices and factors that could increase the private pension income for a median earning man.⁴⁵

	Annuitised pension fund	£ per year	Change in private pension	Replacement rate (incl state pension) ⁴⁶
Single tier pension		£8,150	£0	36%
Baseline private pension	£59,500	£4,100	£0	18%
Total Pension	£59,500	£12,250	£0	54%
Impact on private pension				
Higher pension contributions (12%)	£89,300	£6,150	+£2,050 (+50%)	63%
0.3% AMC	£60,600	£4,180	+£80 (+2%)	54%
Best annuity rate on Money Advice Service tables	£59,500	£4,290	+£190 (+5%)	55%
Retire 2 years later than SPA	£62,700	£4,940	+£840 (+20%)	58%
Whole fund is annuitised, no lump sum taken	£79,300	£5,470	+£1,370 (+33%)	60%

Table C2: The impact on post retirement income of choices and factors that could increase the private pension income for a median earning woman.⁴⁷

	Annuitised pension fund	£ per year	Change in private pension	Replacement rate (incl state pension)
Single tier pension		£8,150	£0	42%
Baseline private pension	£29,900	£1,910	£0	10%
Total Pension	£29,900	£10,060	£0	52%
Impact on private pension				
Higher private contributions (12%)	£44,800	£2,860	+£950 (+50%)	57%
0.3% AMC	£30,400	£1,950	+£40 (+2%)	52%
Best annuity rate on Money Advice Service tables	£29,900	£2,000	+£90 (+5%)	52%
Retire 2 years later than SPA	£32,100	£2,320	+£410 (+21%)	54%
Whole fund is annuitised, no lump sum taken	£39,900	£2,550	+£640 (+33%)	57%

⁴⁵ PPI modelling

⁴⁶ Post retirement income for replacement rates is taken as being the income at retirement

⁴⁷ PPI modelling

Table C3: The impact on post retirement income of choices and factors that could reduce the private pension income for a median earning man.⁴⁸

	Annuitised pension fund	£ per year	Change in private pension	Replacement rate (incl state pension)
Single tier pension		£8,150	£0	36%
Baseline private pension	£59,500	£4,100	£0	18%
Total Pension	£59,500	£12,250	£0	54%
Impact on private pension				
Opt out of pension until age 40	£40,600	£2,800	−£1,300 (−32%)	48%
1.5% AMC for 10yrs 1% thereafter	£52,000	£3,580	−£520 (−13%)	52%
8th best annuity rate on Money Advice Service tables	£59,500	£3,820	−£280 (−7%)	53%
Retire 2 years before SPA	£56,300	£3,360	−£740 (−18%)	49%

Table C4: The impact on post retirement income of choices and factors that could reduce the private pension income for a median earning woman.⁴⁹

	Annuitised pension fund	£ per year	Change in private pension	Replacement rate (incl state pension)
Single tier pension		£8,150	£0	42%
Baseline private pension	£29,900	£1,910	£0	10%
Total Pension	£29,900	£10,060	£0	52%
Impact on private pension				
Opt out of pension until age 40	£25,800	£1,650	−£260 (−14%)	50%
1.5% AMC for 10yrs 1% thereafter	£26,700	£1,710	−£200 (−11%)	51%
8th best annuity rate on Money Advice Service tables	£29,900	£1,780	−£130 (−7%)	51%
Retire 2 years before SPA	£27,700	£1,550	−£360 (−19%)	49%

⁴⁸ PPI modelling

⁴⁹ PPI modelling

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