

PENSIONS POLICY INSTITUTE

PPI

Towards more  
effective savings  
incentives: a report  
of PPI modelling  
for AEGON



This report is sponsored by AEGON



A Technical Report by  
Chris Curry, Daniel Redwood, John Adams and Sean James

Published by the Pensions Policy Institute

© January 2011

ISBN 978-1-906284-16-9

[www.pensionspolicyinstitute.org.uk](http://www.pensionspolicyinstitute.org.uk)



## **Towards more effective savings incentives: a report of PPI modelling for AEGON**

<b>Introduction</b>	<b>1</b>
<b>Executive summary</b>	<b>3</b>
<b>1. Policy scenarios</b>	<b>8</b>
<b>2. The central scenario</b>	<b>10</b>
<b>3. The radical scenario</b>	<b>18</b>
<b>4. The alternative scenario</b>	<b>25</b>
<b>5. Possible behavioural responses</b>	<b>28</b>
<b>6. The impact of the policy scenarios on individuals</b>	<b>41</b>
<b>Appendices</b>	<b>54</b>
<b>Acknowledgements and contact details</b>	<b>58</b>
<b>References</b>	<b>59</b>



## Introduction

During 2010 AEGON has undertaken new research looking at the potential impact of saving incentives on the overall levels of pension saving, on the number of savers and the overall impact on Government expenditure, households, and the long-term pension and saving industry.

There were three stages to this research:

- An external stakeholder consultation exercise to help identify, scope and explore a set of coherent alternative scenarios for savings incentives that could be adopted by the Government;
- A consumer research project to help understand current savings behaviour, the consumer responses to policy changes and the possible behavioural changes that the policy scenarios could stimulate;
- A project to model the financial impact of these alternative scenarios and potential behavioural changes in the short and longer term on Government expenditure, household finances and the long-term pension and saving industry.

The PPI has been commissioned by AEGON to undertake the third part of this research project, to provide economic modelling to assess the potential impact of alternative policy scenarios on saving incentives. This has involved modelling the financial impact of a range of potential policy reform scenarios, and the impact of possible behavioural changes associated with those reforms.

This report sets out the results of the modelling analysis, alongside descriptions of the models used by the PPI to undertake this analysis, the assumptions used within those models, and the behaviour changes ascribed to policy changes.

This report should be read in conjunction with the report describing the consumer research undertaken for AEGON, and the AEGON summary report also produced as part of this project.<sup>1</sup>

This work was undertaken using the PPI's suite of economic models, developed with funding from the Nuffield Foundation.<sup>2</sup> These include:

- The Individual Model
- The Aggregate Model
- The Distributional Model

Detailed descriptions of these models are contained in Appendix 1 to this report.

<sup>1</sup> Wells et al (2011) and AEGON (2011), available from [www.aegon.co.uk/savings-incentives/](http://www.aegon.co.uk/savings-incentives/)

<sup>2</sup> More information on all three models is available in PPI (2005)

Together these models can provide a comprehensive overview of the potential impact of pension policy reforms on retirement incomes and Government spending. However, as with all models that project forward over a long period of time there are limitations as to what can be inferred from the results.

The model results are driven by assumptions as well as by data, and as a consequence the analysis does not provide detailed specific forecasts, but rather projections of broad orders of magnitude under different scenarios.

The focus of the models is pensions income. Although the models do include modelling of home ownership and the value of the main home, we have not modelled any changes in other savings or investments, including property as an investment class. This also means that the models do not look at saving in total – for example, modelled increases in pension saving may be at least partially offset by reductions in other forms of saving, particularly in scenarios which assume a behavioural response to a change in policy.

Full details of the main assumptions used in the PPI models are shown in Appendix 2 to this report.



## Executive summary

During 2010 AEGON has undertaken new research looking at the potential impact of saving incentives on the overall levels of pension saving, on the number of savers and the overall impact on Government expenditure, households, and the long-term pension and saving industry.

There were three stages to this research:

- An external stakeholder consultation exercise to help identify, scope and explore a set of coherent alternative scenarios for savings incentives that could be adopted by the Government;
- A consumer research project to help understand current savings behaviour, the consumer responses to policy changes and the possible behavioural changes that the policy scenarios could stimulate;
- A project to model the financial impact of these alternative scenarios and potential behavioural changes in the short and longer term on Government expenditure, household finances and the long-term pension and saving industry.

The PPI has been commissioned by AEGON to undertake the third part of this research project, to provide economic modelling to assess the potential impact of alternative policy scenarios on saving incentives. This has involved modelling the financial impact of a range of potential policy reform scenarios, and the impact of possible behavioural changes associated with those reforms.

The PPI models were initially used to model the financial implications of three different policy scenarios put forward by AEGON after the consultation and consumer research phases:

- A “central” scenario to act as a baseline to the research. This includes all settled policy, including some aspects that are not yet implemented. This includes auto-enrolment and compulsory employer contributions, the planned CPI indexation of S2P from April 2011, the Coalition’s Budget announcement that BSP would be “triple locked” to rise in line with the highest of prices, earnings, or 2.5% from April 2011, and the planned increase in State Pension Age to 66 for both men and women from 2020.
- A “radical” scenario that moves all long term saving from an EET to a TEE<sup>3</sup> basis, incorporates the idea of tax-free annuities purchased from ISA funds, and allows early access to accumulating pension funds up to a sum equal to all employee contributions. In the first year after introduction, a retrospective tax of existing pension assets is levied, and all future payments of pensions are tax-free. It also incorporates a radical State

<sup>3</sup> Pensions and long term saving taxation is often described according to whether the contributions going into saving are taxed (T) or exempt (E), whether the funds rolling up are T or E and whether the proceeds of saving are T or E. So, pensions are broadly EET, and ISAs are TEE.

pension reform of a single-tier state pension of £140 per week,<sup>4</sup> increased in line with the triple lock, introduced for all existing and future pensioners in 2015, with entitlement on a near-universal basis (based on the current qualification criteria for the Basic State Pension).

- An “alternative” scenario that keeps the tax framework for pensions and other long term saving products such as ISAs separate but moves to a single 30% rate of contribution tax relief for pensions.<sup>5</sup> This scenario also includes a pension income disregard of £12 per week in Pensions Credit, and allows early access via a single withdrawal of up to 25% of the fund.

PPI projections of the central scenario for the UK pension system suggest that:

- Spending on state pensions is projected to increase substantially from under 5% of GDP in 2010 to 7.3% of GDP by 2055.
- The introduction of auto-enrolment will significantly increase the number of individuals saving in a pension from 14 million in 2012 to around 22 million by 2015.
- Auto-enrolment will also lead to a step change increase in pension contributions, although not as large as the increase in the number of pension savers, from around £80bn (2010 earnings terms) in 2012 to £90bn in 2015.
- The stock of pension funds (including the ‘notional’ assets of unfunded pension schemes) falls over time, mainly as a result of the assumed continued switch in employer pension provision from Defined Benefit to Defined Contribution.

PPI projections of the radical scenario for the UK pension system suggest that:

- Under the radical scenario, spending on state pensions would increase significantly compared to the central scenario, rising from under 5% in 2010 to 8.5% of GDP by 2055. This compares to spending on state pensions in the central scenario increasing to 7.3% by 2055.
- As a result of the tax system for private pensions moving from EET to TEE, contributions to private pensions fall in the radical scenario to £60bn in 2015, compared to contributions of over £85bn in the central scenario.
- The switch to TEE also means that the annual cost of tax relief<sup>6</sup> is much lower in the radical scenario, less than £5bn in 2015, compared to £15bn in 2015 in the current scenario.
- The fall in the amount being paid into pensions in the radical scenario also means that there is a fall in the stock of pension funds, partly as a

<sup>4</sup> Similar to the Foundation Pension proposed by the NAPF, see NAPF (2010) and PPI (2010). This option assumes, as in the NAPF work, that only those whose entitlement under the current system is less than the new single level would be topped up to this level, and that contracted-out pensions are counted as part of the state pension.

<sup>5</sup> The current system links pensions tax relief to people’s marginal rate of income tax. 30% was chosen for this single rate scenario because that had been put forward by Aviva and others, and because HMRC have indicated that 30% compared to the marginal rate approach was broadly cost-neutral to the Exchequer ( see Hansard 17 Nov 2005 : Column WA169, Lord Oakeshott of Seagrove Bay).

<sup>6</sup> That is, in the EET the annual cost of relief given on contributions made in that year, relief on investment returns made in that year and net of the tax paid in pension contributions in that year. In the TEE system, with no relief on contributions and no tax paid on pensions, this is relief on investment returns.

result of an assumed one-off tax charge on existing pension funds, which would then allow for all future pension payments to be made free of tax, and partly as a result of no tax relief on pension contributions being paid into pension funds. In 2015, this tax charge would result in the stock of pension funds falling to under £1.6 trillion (2010 earnings terms) compared to almost £1.9 trillion in the central scenario.

- The stock of pension funds continues to decline in the radical scenario, falling to less than £1.2 trillion by 2055 compared to £1.7 trillion in 2055 in the central scenario. However, this fall in pension funds does not necessarily have a detrimental impact on retirement incomes, as the pensions derived from the pension funds are paid free of tax in the radical scenario.

PPI projections of the alternative scenario for the UK pension system suggest that:

- The alternative scenario has little impact on spending on state pensions, adding an additional 0.1% of GDP to spending on state pensions in 2055 compared to the central scenario as a result of the introduction of the pension income disregard in Pension Credit.
- In the alternative policy scenario, there is no change to the aggregate level of pension contributions or to the stock of pension funds. This is because the change in tax relief to a single rate of 30% is specifically designed to be cost neutral, and no behaviour change is allowed for (so for example no individuals are assumed to start or stop making contributions as a result of the tax relief changes, or assumed to make any early access withdrawals).
- However, the introduction of a single tax rate of 30% on pension saving would be less generous than the central scenario for higher rate taxpayers and more generous for basic rate taxpayers. In reality there would almost certainly be a behavioural response to a policy change of this type. Later chapters in this report explore the potential impact of some possible behavioural responses.

While the consumer research can tell us about the possible direction of changes in savings behaviour – if there might be more or less saving among certain groups as a result of the introduction of a particular policy – the results should be interpreted with caution. The sample size of the research was small and was not fully representative of the population as a whole.

Some simplifications have had to be made when setting behavioural assumptions. Some of the policy scenarios elicited different reactions from different groups. For example, the move to a single rate of tax relief had some support among basic rate taxpayers, but was not liked by some (but not all) higher rate taxpayers. In situations such as this we have combined the different group responses into an aggregated response to give an overall indication of the possible high level outcome. This may mean that some differential impacts – for example the proportion of savers or amount saved from basic rate and higher rate taxpayers – are not explored in this analysis.

However, the findings of the consumer research have been used to construct some plausible, but still illustrative, assumed behavioural responses to policy changes, that are broadly consistent with the consumer research findings. The behavioural changes made in the model reflect possible changes in the numbers of people saving, the average pension contribution and levels of early access. PPI projections using these behavioural assumptions suggest that:

- The number of pension savers in the radical scenario could be 1 million higher or 1 million lower than in the central scenario, depending on the way in which behaviour changes in response to the change of policy.
- Pension contributions and the stock of pension funds increase in the radical behavioural scenarios modelled compared to the radical scenario assuming no behaviour change, but are still significantly lower than they are in the central scenario. Although the fall in contributions and the lower stock of pension funds may be important to the pensions industry (feeding through into lower funds under management), it does not necessarily have a detrimental impact on retirement income as the pensions derived from the smaller contributions and funds under management are paid free of tax.
- Both sets of behavioural assumptions used in the alternative scenario are positive, and lead to an increase in the numbers of people saving, the amount contributed to pensions and the stock of pension funds compared to the central scenario. However, the impacts of the behavioural change are relatively small.
- The alternative scenario behavioural assumptions have little impact on the overall costs to the exchequer, relative to the differences found between the central, radical and alternative scenarios before any behaviour change is allowed for.

Although aggregate analysis can give an indication of the impact of policy reforms and behavioural changes on Government spending and the pensions industry, it does not tell us much about the impact of the reforms on individuals and retirement incomes.

Using a small number of hypothetical individuals, PPI modelling suggests that in the central scenario:

- None of the individuals modelled achieve an adequate income in retirement, based on analysis of net replacement rates. However, this analysis only considers pension income, and individuals may have other income or assets that could be used in retirement, such as housing wealth or other savings.
- The low and median earning individuals receive the majority of their pension income from the state in the central scenario.
- The high earning man however, with higher pension contributions than the other examples and much higher earnings, gets the majority of his pension income from private pensions even though he does not meet his

adequacy target. But even the high earner, if he lives long enough, could see almost half of his annual pension income being provided by the state. In the radical scenario, with a single-tier state pension of £140 a week increased in line with the 'triple lock', a single TEE tax regime for pensions and ISAs and allowing early access to pension saving:

- The low earner, median earner and high earner all receive higher retirement incomes under the radical scenario than in the central scenario.
- Incomes do not fall as much during retirement as in the central scenario or the alternative scenario, as a result of the £140 a week single state pension being increased by the 'triple lock'.

In the alternative scenario, based on current policy with the introduction of a pension income disregard in Pension Credit, a single rate of tax relief on pension contributions of 30% and allowing early access to pension saving:

- The low earner and median earner also have higher retirement income than in the central scenario.
- But the high earner has a lower income than in the central scenario as a result of the restriction of tax relief to 30%.

Even after reform scenarios are introduced, adequacy of pension income remains an issue. For a median earning woman,

- In all scenarios, and using the behavioural responses, retirement income is still lower than the replacement rate suggested by the Pensions Commission as an adequate retirement income.<sup>7</sup>
- Increasing contributions under the central scenario gets her closer to her desired replacement rate, but still does not achieve it.
- However, this analysis only considers pension income, and individuals may have other income or assets that could be used in retirement, such as housing wealth or other savings.

<sup>7</sup> Pensions Commission (2005). For a full discussion of adequacy measures see PPI (2009)

## Chapter one: policy scenarios

The PPI has modelled the financial implications of three different policy scenarios put forward by AEGON after the consultation and consumer research phases:

- A “central” scenario to act as a baseline to the research. This includes all settled policy, including some aspects that are not yet implemented. This includes auto-enrolment and compulsory employer contributions, the planned CPI indexation of S2P from April 2011, the Coalition’s Budget announcement that BSP would be “triple locked” to rise in line with the highest of prices, earnings, or 2.5% from April 2011, and the planned increase in State Pension Age to 66 for both men and women from 2020.
- A “radical” scenario that moves all long term saving from an EET to a TEE<sup>8</sup> basis, incorporates the idea of tax-free annuities purchased from ISA funds, and allows early access to accumulating pension funds up to a sum equal to all employee contributions. In the first year after introduction, a retrospective tax of existing pension assets is levied, and all future payments of pensions are tax-free. It also incorporates a radical State pension reform of a single-tier state pension of £140 per week,<sup>9</sup> increased in line with the triple lock, introduced for all existing and future pensioners in 2015, with entitlement on a near-universal basis (based on the current qualification criteria for the Basic State Pension).
- An “alternative” scenario that keeps the tax framework for pensions and other long term saving products such as ISAs separate but moves to a single 30% rate of contribution tax relief for pensions.<sup>10</sup> This scenario also includes a pension income disregard of £12 per week in Pensions Credit, and allows early access via a single withdrawal of up to 25% of the fund.

The ‘triple lock’ will be higher than average earnings growth over the long term. This is because it will never be increased by less than average earnings, but in some years it may be increased by more than earnings growth (when average earnings growth is less than CPI or 2.5%).

An analysis of a combined ‘triple lock’ index over a full economic cycle between 1993 and 2009 suggests that on average the ‘triple lock’ would have grown by around 0.25% more than average earnings over this period. It is therefore assumed that the ‘triple lock’, used in all of the scenarios, is equivalent to an increase in the pension level (either BSP in the current

<sup>8</sup> Pensions and long term saving taxation is often described according to whether the contributions going into saving are taxed (T) or exempt (E), whether the funds rolling up are T or E and whether the proceeds of saving are T or E. So, pensions are broadly EET, and ISAs are TEE.

<sup>9</sup> Similar to the Foundation Pension proposed by the NAPF, see NAPF (2010) and PPI (2010). This option assumes, as in the NAPF work, that only those whose entitlement under the current system is less than the new single level would be topped up to this level, and that contracted-out pensions are counted as part of the state pension.

<sup>10</sup> The current system links pensions tax relief to people’s marginal rate of income tax. 30% was chosen for this single rate scenario because that had been put forward by Aviva and others, and because HMRC have indicated that 30% compared to the marginal rate approach was broadly cost-neutral to the Exchequer ( see Hansard 17 Nov 2005 : Column WA169, Lord Oakeshott of Seagrove Bay).

scenario or the single-tier pension in the radical scenario) of 0.25% above nominal earnings growth of 4.5% each year, which is equivalent to a nominal growth rate of 4.75%.

The single-tier state pension used in the radical scenario is broadly based on the Foundation Pension proposed by the NAPF, but at a level of £140 a week introduced for both existing and future pensioners.

It is assumed that the pension would be paid from State Pension Age, and that all pensioners (including those who have already reached State Pension Age) would be eligible for the new pension. Individuals would stop building up pension rights in the current BSP and S2P system as soon as the new single-tier pension is introduced, and when reaching pension age they would be paid the higher of the £140 or their entitlement built up under the current system. If an individual had been contracted-out, their state pension entitlement under the current system assumes that they had remained contracted-in.<sup>11</sup>

<sup>11</sup> See NAPF (2010) and PPI (2010) for further details.



## Chapter two: the central scenario

This chapter outlines the modelling results for the central scenario.

In order to consider the potential impact of different policy reforms and behavioural scenarios, it is important to set a baseline as to how the system might develop without further reform.

PPI projections of the central scenario for the UK pension system suggest that:

- Spending on state pensions is projected to increase substantially from under 5% of GDP in 2010 to 7.3% of GDP by 2055.
- The introduction of auto-enrolment will significantly increase the number of individuals saving in a pension from 14 million in 2012 to around 22 million by 2015.
- Auto-enrolment will also lead to a step change increase in pension contributions, although not as large as the increase in the number of pension savers, from around £80bn (2010 earnings terms) in 2012 to £90bn in 2015.
- The stock of pension funds (including the 'notional' assets of unfunded pension schemes) falls over time, mainly as a result of the assumed continued switch in employer pension provision from Defined Benefit to Defined Contribution.

### *The central scenario*

The central scenario acts a baseline against which to compare the policy reform scenarios. For this project, the central scenario includes all settled policy, including some aspects that are not yet fully implemented but which have been announced by the Government.

This includes auto-enrolment and compulsory employer contributions, the planned CPI indexation of S2P, the Coalition's Budget announcement that BSP would be "triple locked" to rise in line with the highest of prices, earnings, or 2.5%, and the planned increase in State Pension Age to 66 for both men and women from 2020.

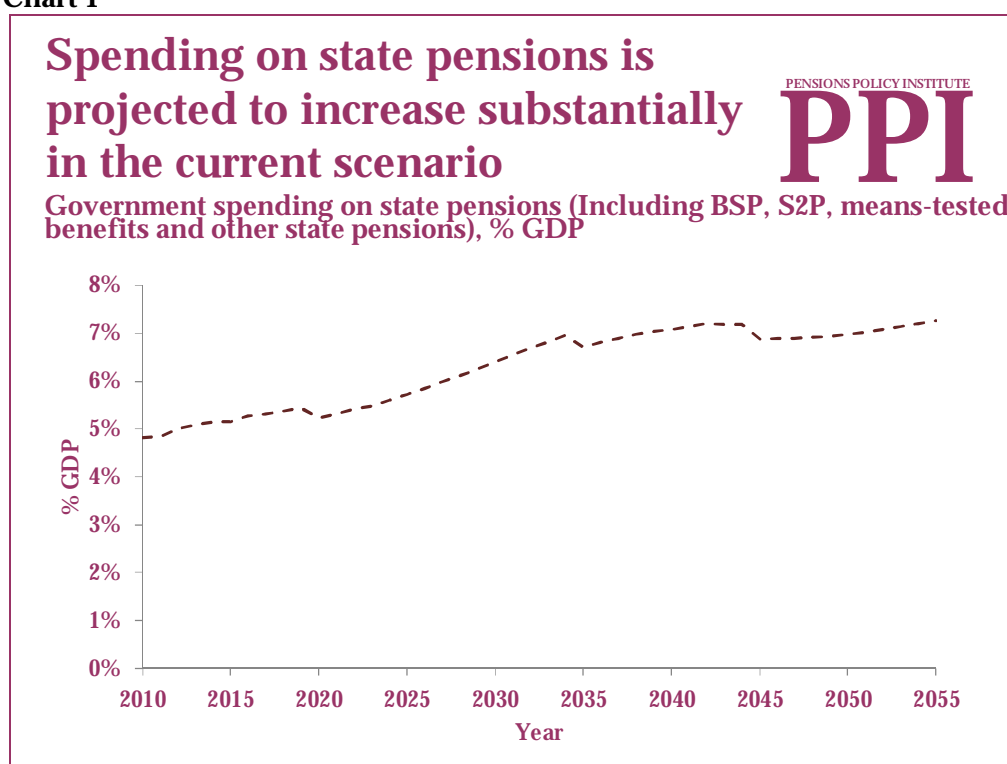


### **Spending on state pensions**

Spending on state pensions (which includes the Basic State Pension (BSP), SERPS / State Second Pension (S2P), other pension benefits such as Winter Fuel Payments, Pension Credit and other means-tested benefits for pensioners) is projected to increase substantially from less than 5% of GDP in 2010 to 7.3% of GDP by 2055, despite the proposed and legislated increases in state pension age (including the proposed increase in SPA to 66 for men and women by 2020, the increase to 67 by 2036 and the increase to 68 by 2046) (Chart 1).

The main drivers of this rise in Government expenditure include the increasing number of pensioners, the increase in coverage of the BSP and S2P introduced in the 2007 Pensions Act, and the introduction of the 'triple lock' for the BSP from 2011. As described above, the 'triple lock' means that the BSP increases by more than average earnings growth. Government expenditure falls temporarily around 2020, 2036 and 2046 as the SPA changes are introduced, but begins to increase again shortly after.

Chart 1



***Private pension saving***

There are two major influences on levels of private pension saving in the baseline scenario: the assumed continued switch from Defined Benefit (DB) to Defined Contribution (DC) pensions in the private sector, and the introduction of auto-enrolment from 2012. The modelling of both of these factors is heavily dependent on a number of assumptions

**Modelling assumptions**

The central scenario also includes the baseline PPI modelling assumptions concerning future changes in private sector pension provision. There are two major influences on levels of private pension saving in the baseline scenario: the assumed continued switch from Defined Benefit (DB) to Defined Contribution (DC) pensions in the private sector,<sup>12</sup> and the introduction of auto-enrolment from 2012.

***The assumed DB/DC switch***

Over a prolonged period of time there has been a shift in private sector pension provision in the UK away from DB schemes and towards DC schemes.<sup>13</sup> In the PPI modelling for this project it is assumed that this shift continues into the future, and that the proportion of employees who are active members of private sector defined benefit schemes falls by 80% between 2006 and 2035.<sup>14</sup>

***The introduction of auto-enrolment***

The Government has announced that auto-enrolment into workplace pension schemes will be introduced from 2012. The main features of this system are:

- Auto-enrolment for all employees aged over 22 and earning more than £7,475 a year (2011 earnings terms) into a workplace pension, with the opportunity to opt out.
- A minimum contribution of 4% from the individual on band earnings for all those auto-enrolled between £5,715 and £38,185 a year (in 2011 earnings terms). This would be matched by a minimum 1% contribution of band earnings from the Government and a compulsory 3% contribution of band earnings from the individual's employer.<sup>15</sup>

<sup>12</sup> We have not modelled or assumed any changes to public sector pension provision in the central scenario. This means that they are assumed to retain their current DB structure and benefit levels, but the amounts contributed and future income received are calculated using modelled changes in the number of people contributing and withdrawing pensions. While it is likely that public sector pension arrangements are likely to change in future, without confirmed changes any alternative assumptions would be difficult to derive and justify, and using the consistent 'no change' approach minimises the possibilities of differences between scenarios being driven by spurious assumptions on future public sector pension provision.

<sup>13</sup> See PPI (2005) for further information

<sup>14</sup> This is based on a continuation of the recent trends seen in DB to DC movements

<sup>15</sup> As this is provided through the current system of pension tax relief, the Government contribution would be higher for individuals who pay higher rate tax. The employer contribution is compulsory in respect of employees who do not opt out.

The introduction of auto-enrolment requires a number of different modelling assumptions to be made, especially as policy has been developing in this area,<sup>16</sup> including:

- Modelling of the phasing in of the policy.
- Modelling of the band of earnings on which auto-enrolled contributions are paid.
- Assumed opt-out rates from auto-enrolment.
- Assumed employer behaviour in response to the introduction of auto-enrolment.

### ***Phasing in***

Auto-enrolment will be phased in between 2012 and 2017, based on the size of the employer. The employer contribution will initially be introduced at 1%, increasing to 3% 2 years after the introduction of auto-enrolment for that particular employer (so an employer who has auto-enrolment introduced in 2015 will not have to make employer contributions of 3% until 2017).

However the PPI models, for simplicity, do not make any allowance for the phasing in of auto-enrolment and assume that all the phasing-in of auto-enrolment and contributions are in place by 2015. Given the long-term, aggregate nature of the models this is not likely to have a significant impact on the analysis or results.

### ***Band earnings***

In October 2010 the Government announced that the lower earnings limit for auto-enrolment would be set at £7,475 (in 2011 earnings terms), not at the previously expected level of £5,715.<sup>17</sup> However, for those earning £7,475 or over, contributions would still start from £5,715. Individuals earning between £5,715 and £7,475 will be able to opt-in to a pension scheme, and still receive the minimum employer contribution.

The PPI models still assume that all relevant individuals earnings over £5,715 (in 2011 earnings terms) would be auto-enrolled. Again, given the long-term, aggregate nature of the models this is not likely to have a significant impact on the analysis or results.

<sup>16</sup> See for example [www.dwp.gov.uk/policy/pensions-reform/workplace-pension-reforms/](http://www.dwp.gov.uk/policy/pensions-reform/workplace-pension-reforms/)

<sup>17</sup> See Johnson et al (2010)

***Opt-out rates***

The PPI has in the past used a range of opt-out assumptions when modelling the potential impact of auto-enrolment. In the PPI's most recent work, these were based on the Government's estimate that 10.8 million employees would be available for auto enrolment into pension saving from 2012, and assumed that 33% of these would opt-out.<sup>18</sup> This is the opt-out assumption used in the central scenario.

The central scenario also assumes that around 2 million of these are already saving in a personal pension without an employer contribution. Around half of these are assumed to switch into NEST. A similar allowance is made for people who voluntarily opt in to NEST.

***Employer responses***

The PPI models assume that some employers do amend their pension provision in response to the introduction of auto-enrolment as the baseline assumption. These assumptions model what might happen if employers act in the way suggested by a survey conducted by Deloitte on behalf of the ABI of their likely responses to the reforms.<sup>19</sup>

The assumptions are broad brush, since there is limited evidence for how employers will react to the reforms and a significant minority may still not yet be aware of the reforms. There is also uncertainty as to how the recent deterioration in economic conditions will impact on employer behaviour. In the central scenario here, as in previous PPI work, employers are assumed to act in different ways, with some keeping their scheme open on current terms and others closing their scheme or reducing their contribution levels.<sup>20</sup>

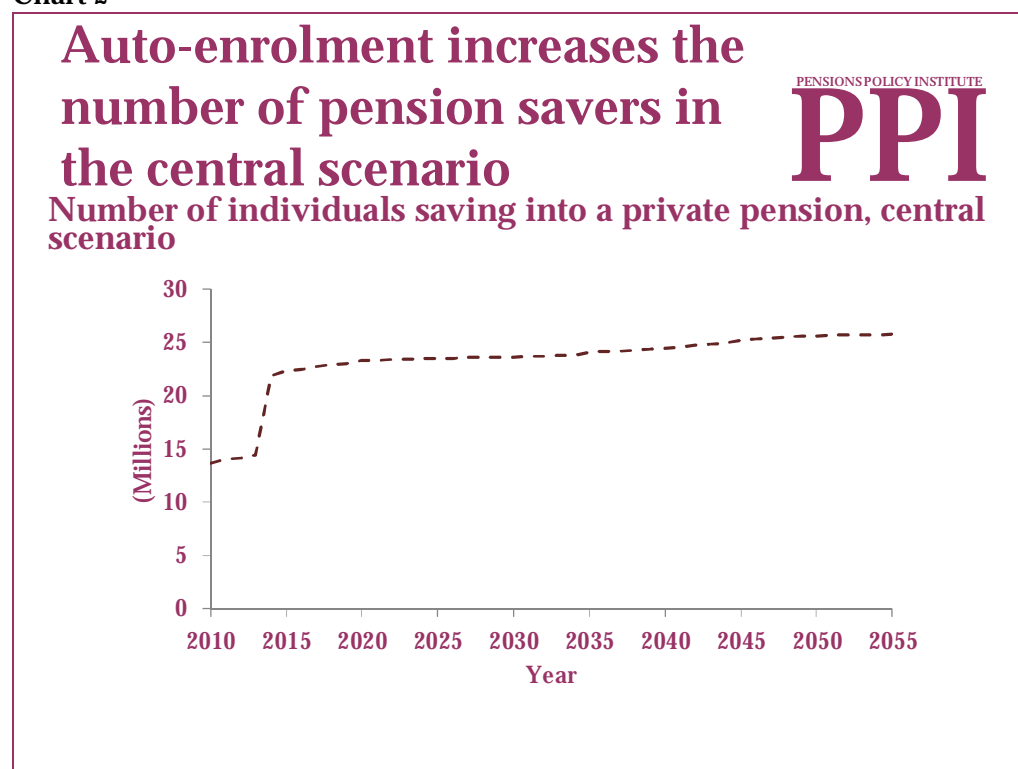
<sup>18</sup> This is based on the scenario initially used by the Government in modelling the impact of the introduction of auto-enrolment. More recently, the Labour Government had assumed that only 25% of eligible individuals would opt-out, based on a more recent consumer survey. However, this was conducted before the economic downturn, which may reduce the availability of income to be used for saving and so increase opt-out rates.

<sup>19</sup> The Deloitte survey has been chosen because it is the most recent survey of likely employer responses where there is sufficient detail to allow examination of the findings and methodology used, and to allow for the results to be translated into assumptions. See ABI (2006) for further information. There has been more recent survey evidence from the DWP, but only headline findings have been published.

<sup>20</sup> See Appendix 2 and Table A.1 for further details.

**Private pension results**

In terms of the number of people saving for a pension, the introduction of auto-enrolment from 2012 is projected to lead to a significant increase in the number of people saving in a pension, increasing from 14 million in 2012 to around 22 million by 2015 (Chart 2).<sup>21</sup>

Chart 2<sup>22</sup>

<sup>21</sup> Based on out assumed rate of opt-out of 33%

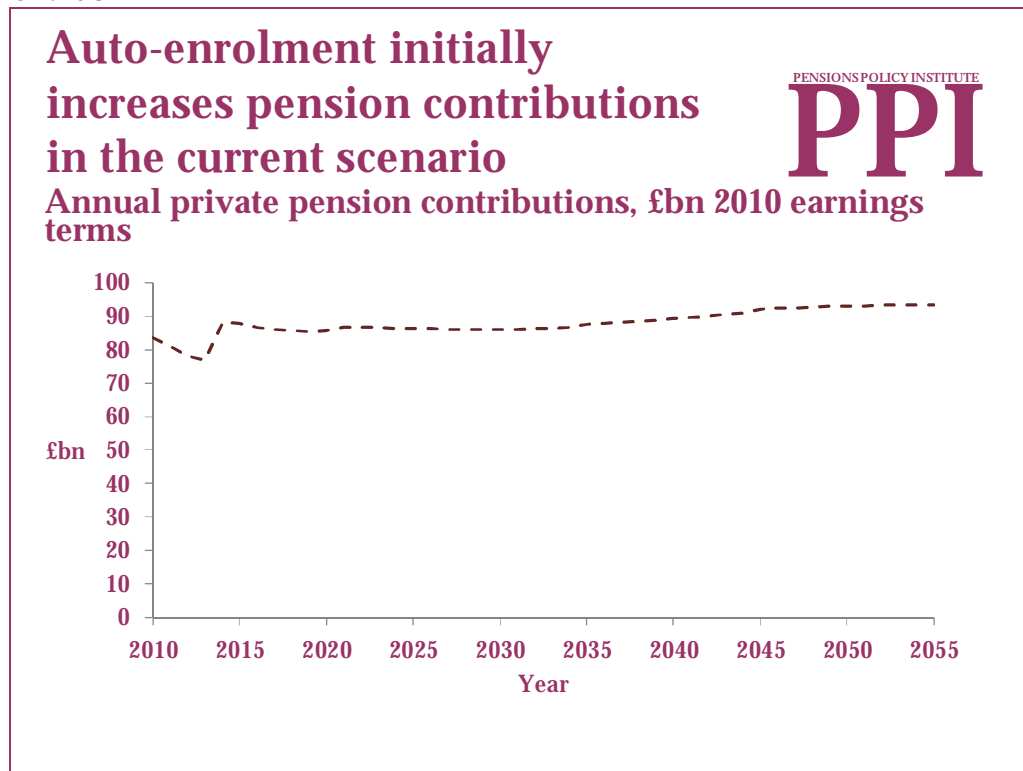
<sup>22</sup> See Appendix 2 for details of assumptions concerning employer responses to the introduction of auto-enrolment.

This increase in the number of pension savers also leads to an increase in the amount contributed to private pensions, from around £80bn in 2012 (in 2010 earnings terms) to £90bn by 2015 (Chart 3). However, the increase in contributions is not as large as the increase in the number of pension savers.

This is because:

- Many of those auto-enrolled will be on lower incomes, and make only the minimum contributions on band earnings
- At the same time as DC contributions increase, DB contributions continue to decline
- Some employers are assumed to alter their pension arrangements in light of having to auto-enrol all staff

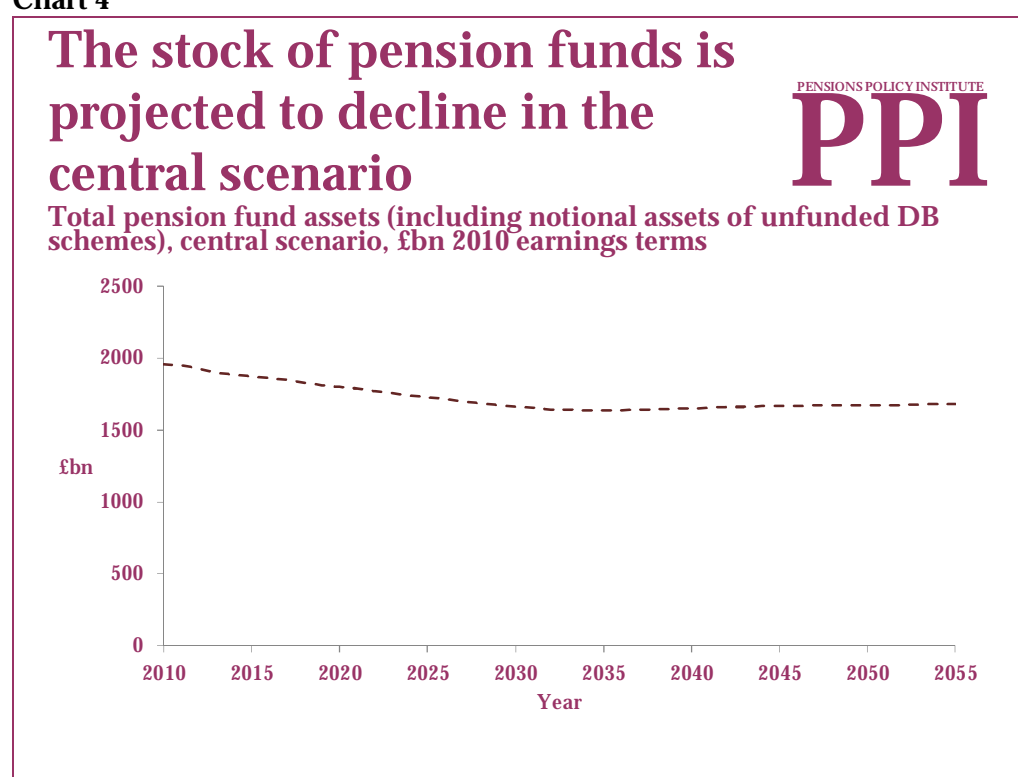
Chart 3



However, the increase in pension contributions does not lead to an increase in the stock of pension funds (Chart 4). The stock of pension funds includes all funded DB and DC funds, as well as allowing for notional assets held in unfunded DB schemes (mainly in the public sector).

This is primarily due to the assumption in the modelling that the proportion of employees who are active members of private sector defined benefit schemes falls by 80% between 2006 and 2035. On central PPI assumptions<sup>23</sup> concerning the move from Defined Benefit to Defined Contribution pensions, and on contribution levels under auto-enrolment, the stock of pension funds is projected to decline in the medium and long term, falling from almost £2 trillion in 2010 (2010 earnings terms) to £1.7 trillion by 2055.

Chart 4



<sup>23</sup> See Appendix 2 for further details

## Chapter three: the radical scenario

This chapter shows how, under specific assumptions, spending on state pensions and private pension saving may be affected by the introduction of the radical scenario.

The radical scenario moves all long term saving on to a TEE<sup>24</sup> basis, incorporates the idea of tax-free annuities purchased from ISA funds, and allows early access to accumulating pension funds up a sum equal to all employee contributions. In the first year after introduction, a retrospective tax of existing pension assets is levied, and all future payments of pensions are paid out tax-free. It also incorporates a radical state pension reform of a single-tier state pension of £140 per week,<sup>25</sup> increased in line with the triple lock, introduced for all existing and future pensioners in 2015, with entitlement on a near-universal basis (based on the current qualification criteria for the Basic State Pension).

The analysis assumes that the policy changes in the radical and alternative scenarios are introduced in 2015, simulating a realistic timetable for introduction.

The main findings of this chapter are that:

- Under the radical scenario, spending on state pensions would increase significantly compared to the central scenario, rising from under 5% in 2010 to 8.5% of GDP by 2055. This compares to spending on state pensions in the central scenario increasing to 7.3% by 2055.
- As a result of the tax system for private pensions moving from EET to TEE, contributions to private pensions fall in the radical scenario to £60bn in 2015, compared to contributions of over £85bn in the central scenario.
- The switch to TEE also means that the annual cost of tax relief<sup>26</sup> is much lower in the radical scenario, less than £5bn in 2015, compared to £15bn in 2015 in the current scenario.
- The fall in the amount being paid into pensions in the radical scenario also means that there is a fall in the stock of pension funds, partly as a result of an assumed one-off tax charge on existing pension funds, which would then allow for all future pension payments to be made free of tax, and partly as a result of no tax relief on pension contributions being paid into pension funds. In 2015, this tax charge would result in the stock of

<sup>24</sup> Pensions and long term saving taxation is often described according to whether the funds going into saving are taxed (T) or exempt (E), whether the funds rolling up are T or E and whether the proceeds of saving are T or E. So, pensions are broadly EET, and ISAs are TEE.

<sup>25</sup> Similar to the Foundation Pension proposed by the NAPF, see NAPF (2010) and PPI (2010). This option assumes, as in the NAPF work, that only those whose entitlement under the current system is less than the new single level would be topped up to this level, and that contracted-out pensions are counted as part of the state pension.

<sup>26</sup> That is, in the EET the annual cost of relief given on contributions made in that year, relief on investment returns made in that year and net of the tax paid in pension contributions in that year. In the TEE system, with no relief on contributions and no tax paid on pensions, this is relief on investment returns.



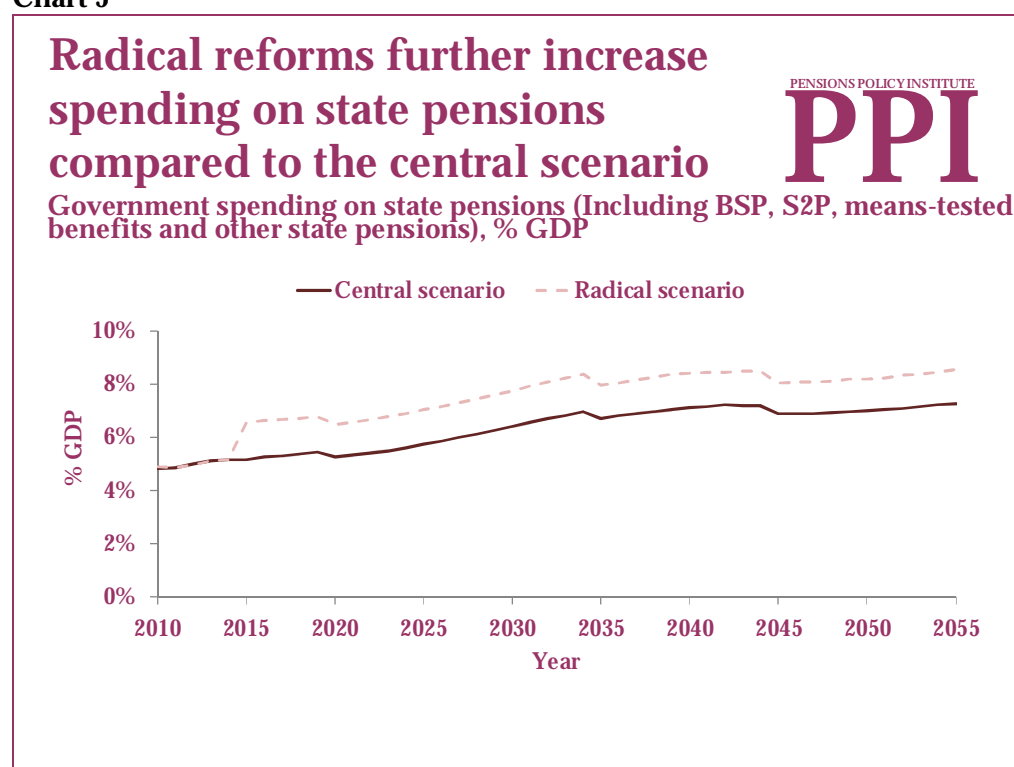
pension funds falling to under £1.6 trillion (2010 earnings terms) compared to almost £1.9 trillion in the central scenario.

- The stock of pension funds continues to decline in the radical scenario, falling to less than £1.2 trillion by 2055 compared to £1.7 trillion in 2055 in the central scenario. However, this fall in pension funds does not necessarily have a detrimental impact on retirement incomes, as the pensions derived from the pension funds are paid free of tax in the radical scenario.

#### ***The impact of the radical scenario on spending on state pensions***

Under the radical scenario, with the introduction of a single-tier state pension that pays existing and future pensioners £140 a week which is indexed by the 'triple lock, spending on state pensions is projected to increase substantially above that expected in the central scenario, rising from under 5% of GDP in 2010 to 8.5% of GDP by 2055 (Chart 5). This compares to spending on state pensions in the central scenario increasing from under 5% of GDP in 2010 to 7.3% by 2055.

**Chart 5**



#### ***The impact of reform on private pensions***

In the radical scenario, there are substantial impacts on private pension saving, even without assuming any behavioural change, as a result of the new policies. This is as a result of pension contributions being taxed rather than being exempt from tax in the radical scenario. The modelling assumes that individuals would continue to make the same gross contribution (resulting in a smaller net contribution), so the value of the tax relief is lost from private

pensions (see Box 1). As a result of the tax system for private pensions moving from EET to TEE, contributions to private pensions fall in the radical scenario to £60bn in 2015, compared to contributions of over £85bn in the central scenario (Chart 6).

**Box 1: Modelling the impact on pension contributions of the switch from EET to TEE**

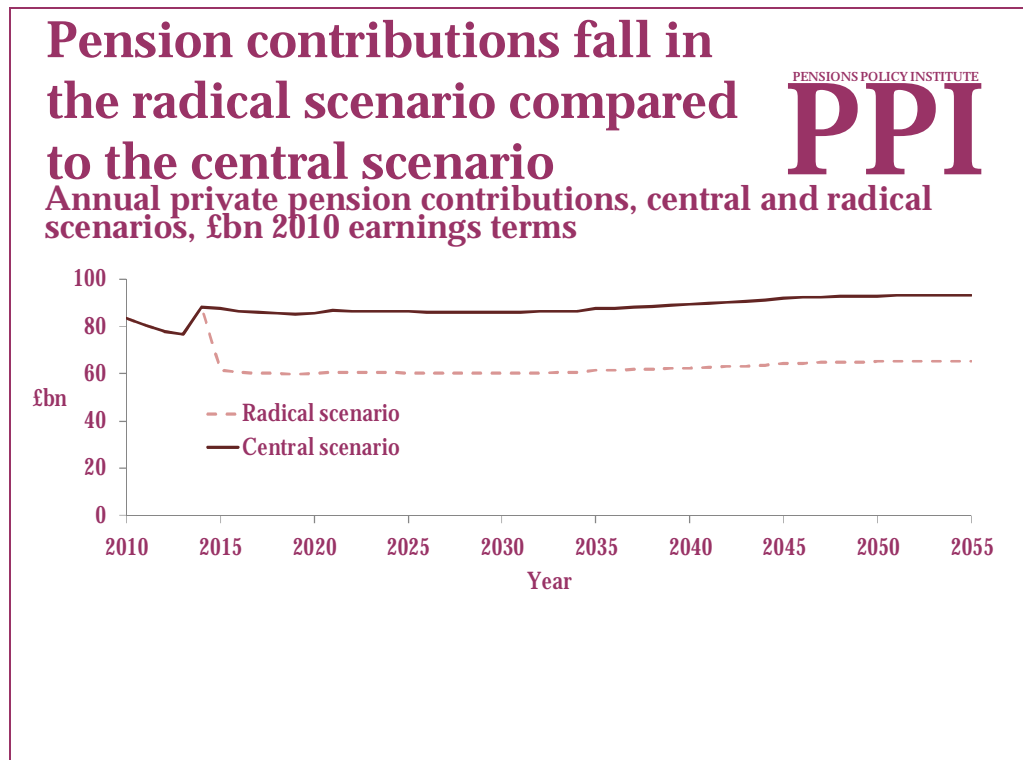
It is assumed in this modelling work that when the tax treatment of pensions is switched from the central scenario EET system to the radical scenario TEE system, individuals continue to make the same gross pension contribution under each system.

If an individual was a basic rate taxpayer and was making a gross pension contribution of £100 a month, in the EET system this would be subject to tax relief and the amount actually paid into his or her pension would be £125.

In the TEE system, the individual is assumed to just pay in £100 a month, and not increase his contribution (and therefore reduce his income available for consumption) to make up for the removal of tax relief.

This is assumed to be true in both DC and DB schemes in the modelling. In effect this means that we have assumed that DB schemes (in both the private and public sectors) would take the same employer and employee contributions as in the central scenario but with no tax relief, but pay-out tax-free pensions in future.

Chart 6

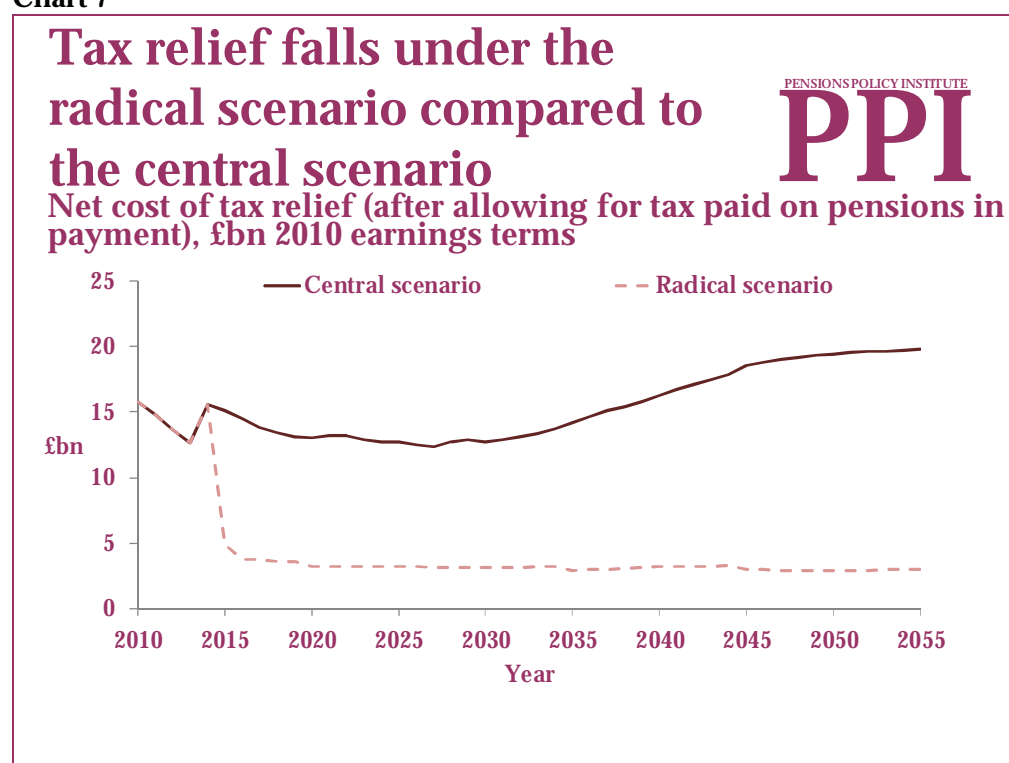


The switch to TEE also means that the annual cost of tax relief<sup>27</sup> is much lower in the radical scenario, less than £5bn (2010 earnings terms) in 2015, compared to £15bn in 2015 in the central scenario (Chart 7).

The net cost of tax relief increases substantially in the central scenario in 2015 with the completion of the introduction of auto-enrolment. Beyond 2015, the shape of the net cost of tax relief in the central scenario is driven by initial increases in the amount of income tax paid on private pensions, which increase faster than tax relief on contributions, keeping the net cost relatively stable.

In the radical scenario, there is an immediate fall in tax relief as all pension contributions are no longer tax exempt. There are still some costs of tax relief, as the investment returns on pension funds still attract tax relief.

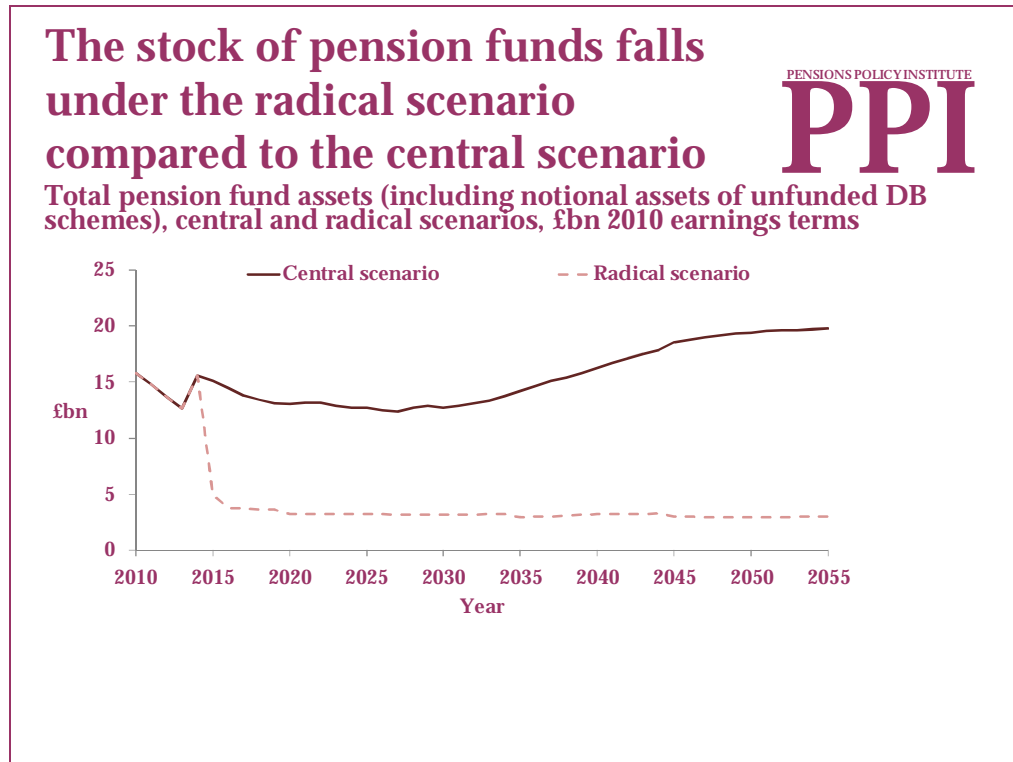
Chart 7



<sup>27</sup> That is, in the EET the annual cost of relief given on contributions made in that year, relief on investment returns made in that year and net of the tax paid in pension contributions in that year. In the TEE system, with no relief on contributions and no tax paid on pensions, this is relief on investment returns.

The fall in the amount being contributed to pensions in the radical scenario also means that there is a fall in the stock of pension funds (Chart 8).<sup>28</sup> In 2015 a large fall in the stock of pension funds is modelled due to an assumed one-off tax charge on existing pension funds, which would then allow for all future pension payments to be made free of tax.<sup>29</sup> In 2015, this tax charge would result in the stock of pension funds falling from almost £1.9 trillion in the central scenario to under £1.6 trillion (2010 earnings terms) in the radical scenario. The lower annual contributions in the radical scenario means that the stock of pension funds continues to decline, falling to less than £1.2 trillion by 2055, compared to £1.7 trillion in the central scenario.

Chart 8



Although the fall in contributions and the lower stock of pension funds may be important to the pensions industry (feeding through in to lower funds under management), it does not necessarily have a detrimental impact on retirement income as the pensions derived from the smaller contributions and funds under management are paid free of tax.

<sup>28</sup> Pension funds in this context include all funded DB and DC pension funds, and an estimate of the notional assets of unfunded DB schemes (mainly in the public sector).

<sup>29</sup> In reality this would not be necessary, as two systems could be run alongside each other. However this would retain complexity within the pensions system.

### **Overall impact on costs to the Exchequer**

The radical scenario increases spending on state pensions but reduces the net cost of tax relief relative to the central scenario. Taking these two elements together, the overall cost to the Exchequer (that is, taking spending on state pensions and the net cost of tax relief together) is higher under the radical scenario than under the central scenario (Chart 9).

In 2015, when the radical scenario policies are introduced, the annual cost to the exchequer is 6.9% of GDP under the radical scenario, compared to 6.2% in the central scenario. By 2055, the annual cost to the exchequer has risen to 8.7% in the radical scenario, compared to 8.6% in the central scenario.

**Chart 9**

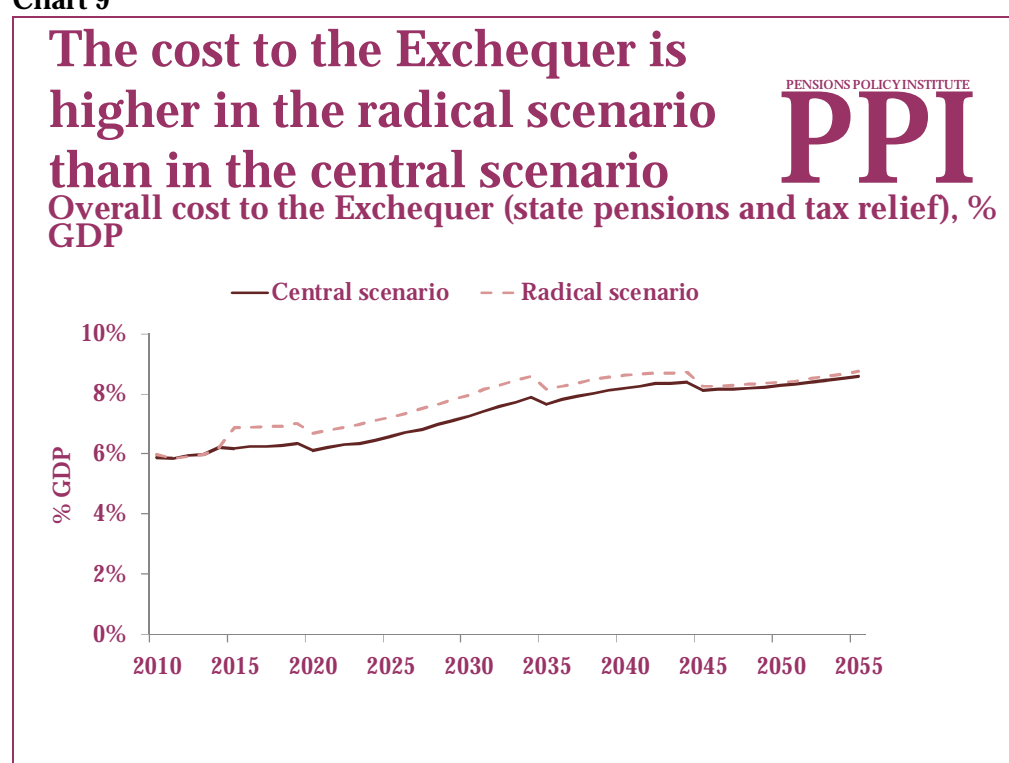


Chart 9 does not allow for the one-off tax charge that is assumed to be made on all existing pension funds in 2015 in the radical scenario, when the pensions tax system moves from EET to TEE. This would result in a one-off gain to the Exchequer of around £270bn (almost 19% of GDP). However, the consumer research for this project suggested that this switch may lead to consumers choosing to save outside of pensions, and this possibility is considered in the next chapter.

The balance of costs to the Exchequer is also different between the central scenario and the radical scenario (Tables 1 and 2). In the radical scenario, more of the cost to the exchequer is on spending on state pensions (directed at people over SPA) and less on tax relief for pensions (directed at people of working age) than in the current scenario.

**Table 1: Overall cost to the Exchequer by component of spending, central scenario, % GDP**

	2015	2025	2035	2045	2055
State spending on pensions	5.1%	5.7%	6.7%	6.9%	7.3%
Net cost of tax relief	1.0%	0.9%	1.0%	1.2%	1.3%
Overall cost to the Exchequer	6.2%	6.6%	7.7%	8.1%	8.6%

**Table 2: Overall cost to the Exchequer by component of spending, radical scenario, % GDP**

	2015	2025	2035	2045	2055
State spending on pensions	6.6%	7.0%	8.0%	8.0%	8.5%
Net cost of tax relief	0.3%	0.2%	0.2%	0.2%	0.2%
Overall cost to the Exchequer	6.9%	7.2%	8.2%	8.2%	8.7%

## Chapter four: the alternative scenario

This chapter shows how, under specific assumptions, spending on state pensions and private pension saving may be affected by the alternative scenario.

The alternative scenario keeps pensions and other long term saving products such as ISAs separate but moves to a single 30% rate of contribution tax relief for pensions.<sup>30</sup> This scenario also includes a pension income disregard of £12 per week in Pensions Credit, and allows early access via a single withdrawal of up to 25% of the fund.

As with Chapter 3, the analysis assumes that the policy changes in the alternative scenario are introduced in 2015, simulating a realistic timetable for introduction.

PPI projections of the alternative scenario for the UK pension system suggest that:

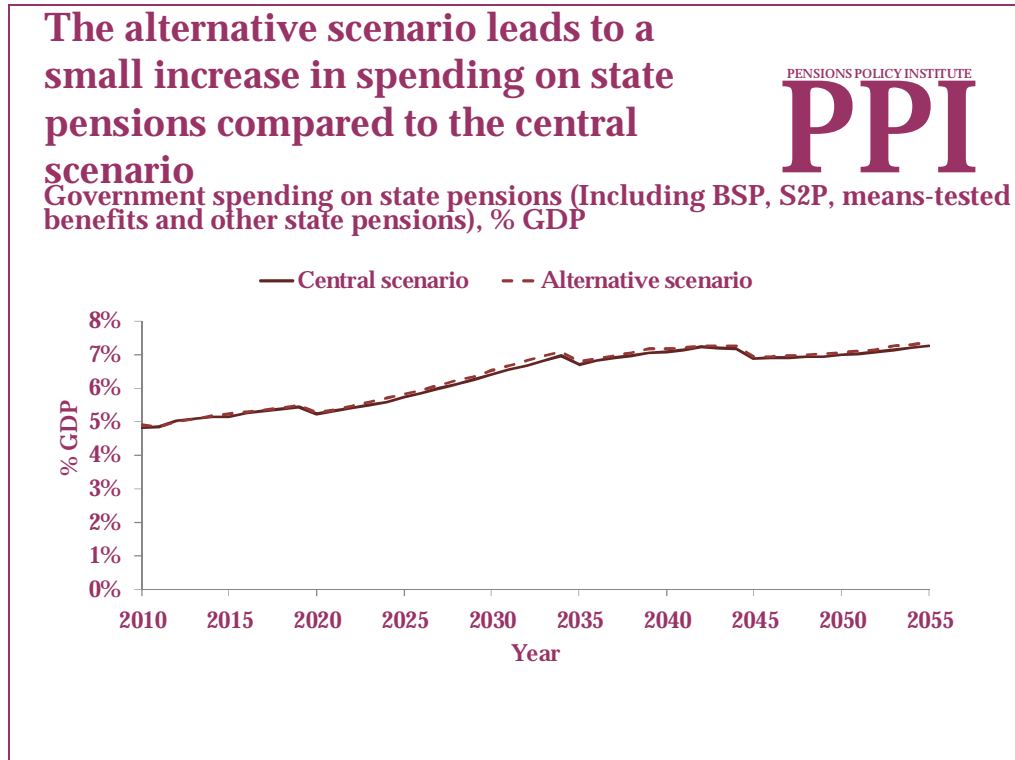
- The alternative scenario has little impact on spending on state pensions, adding an additional 0.1% of GDP to spending on state pensions in 2055 compared to the central scenario as a result of the introduction of the pension income disregard in Pension Credit.
- In the alternative policy scenario, there is no change to the aggregate level of pension contributions or to the stock of pension funds. This is because the change in tax relief to a single rate of 30% is specifically designed to be cost neutral, and no behaviour change is allowed for (so for example no individuals are assumed to start or stop making contributions as a result of the tax relief changes, or assumed to make any early access withdrawals).
- However, the introduction of a single tax rate of 30% on pension saving would be less generous than the central scenario for higher rate taxpayers and more generous for basic rate taxpayers. In reality there would almost certainly be a behavioural response to a policy change of this type. Later chapters in this report explore the potential impact of some possible behavioural responses.

<sup>30</sup> The current system links pensions tax relief to people's marginal rate of income tax. 30% was chosen for this single rate scenario because that had been put forward by Aviva and others, and because HMRC have indicated that 30% compared to the marginal rate approach was broadly cost-neutral to the Exchequer ( see Hansard 17 Nov 2005 : Column WA169, Lord Oakeshott of Seagrove Bay).

**The impact of the alternative scenario on spending on state pensions**

The state pension reform modelled in the alternative scenario to introduce a pension income disregard to Pension Credit has little impact on state spending, increasing to 7.4% of GDP in 2055, 0.1% of GDP higher than in the central scenario (Chart 10).

**Chart 10**



**The impact of reform on private pensions**

In the alternative policy scenario there is no overall impact on the levels of contributions to private pension saving or on the stock of private pension funds. This is because:

- The introduction of a single rate of tax relief at 30% is designed to be cost neutral<sup>31</sup>, and is assumed to be cost neutral in the modelling.
- Even though early access is introduced in this scenario, without behavioural change no one would save more or withdraw funds early.

This is not to say that if the alternative scenario was to be introduced that there would be no impact on private pension saving. It is likely that as a result of the changes:

- There could be a change in the composition of pension savers – a single tax relief rate would be more attractive to basic rate tax payers and less attractive to higher rate taxpayers. This could affect both the number of pension savers and the amount of pension contributions.

<sup>31</sup> HMRC have indicated that 30% compared to the marginal rate approach is broadly cost-neutral to the Exchequer ( see Hansard 17 Nov 2005 : Column WA169, Lord Oakeshott of Seagrove Bay)



- There could be a further change in the number of pension savers and the amount of pension contributions arising from the availability of early access to pension funds.
- There would be an impact on the stock of pension funds available for retirement income of individuals making withdrawals under early access arrangements.

The impact of possible behaviour change is explored further in chapter 5.

## Chapter five: possible behavioural responses

The second stage of the analysis for this research was to investigate the potential impact of changes in behaviour on the financial implications of policy change.

This chapter sets out the behavioural assumptions used in addition to the policy scenarios modelled, and shows the potential different impacts on private pensions and the overall costs to the exchequer if people changed behaviour in the ways suggested by these assumptions to the introduction of the radical or alternative policy scenarios.

While the consumer research can tell us about the possible direction of changes in savings behaviour – if there might be more or less saving among certain groups as a result of the introduction of a particular policy – the results should be interpreted with caution. The sample size of the research was small and was not fully representative of the population as a whole.

However, the findings of the consumer research have been used to construct some plausible, but still illustrative, assumed behavioural responses to policy changes, that are broadly consistent with the consumer research findings. The behavioural changes made in the model reflect possible changes in the numbers of people saving, the average pension contribution and levels of early access. PPI projections using these behavioural assumptions suggest that:

- The number of pension savers in the radical scenario could be 1 million higher or 1 million lower than in the central scenario, depending on the way in which behaviour changes in response to the change of policy.
- Pension contributions and the stock of pension funds increase in the radical behavioural scenarios modelled compared to the radical scenario assuming no behaviour change, but are still significantly lower than they are in the central scenario. Although the fall in contributions and the lower stock of pension funds may be important to the pensions industry (feeding through into lower funds under management), it does not necessarily have a detrimental impact on retirement income as the pensions derived from the smaller contributions and funds under management are paid free of tax.
- Both sets of behavioural assumptions used in the alternative scenario are positive, and lead to an increase in the numbers of people saving, the amount contributed to pensions and the stock of pension funds compared to the central scenario. However, the impacts of the behavioural change are relatively small.
- The alternative scenario behavioural assumptions have little impact on the overall costs to the exchequer, relative to the differences found between the central, radical and alternative scenarios before any behaviour change is allowed for.

**Behavioural assumptions**

For each of the radical and alternative policy scenarios, two different sets of behavioural assumptions were constructed. The assumptions were based where possible on the PPI and AEGON interpretation of the findings of the consumer research conducted earlier in this project for AEGON,<sup>32</sup> and supplemented by international evidence.<sup>33</sup>

The behavioural assumptions used in this analysis have been derived from the consumer research carried out for AEGON as part of this research project. However, the consumer research was a qualitative study involving 25 individuals, all with some pension saving. This is not representative of the population as a whole, and the modelling results based on the behavioural findings should not be considered to be definitive projections.

However, the findings can give a useful indication of the potential direction and broad order of magnitude of possible behavioural responses, and in the absence of any other quantitative or qualitative information the findings can serve as a broad guide to the possible impacts of changes in behaviour in response to policy changes.

As part of the consumer research, different suggestions for changes to the pensions tax system were proposed, to try and gauge which were attractive to the research participants (and so may encourage them to save more, or be more likely to save, in a pension) and which were not attractive (and so may result in them saving less, or being less likely to save, in a pension). The consumer research findings suggested that the individuals were attracted to:

- There was support for the idea of moving to a single tax framework for all pension and ISA saving on a TEE basis. However, there was concern that a future Government may renege on their commitment to keep the tax exempt nature of pension income in this scenario. However if, as in the scenario presented, there was a one-off tax charge on existing pension funds to move all pension saving onto a TEE basis, some participants indicated that they would no longer save in pensions.
- There was support for the idea of permitting early access to pension saving. There were a number of different models discussed, but the models most preferred by the research participants were for access to either 25% of pension saving, or the amount made up employee contributions, with no restrictions on access conditions.<sup>34</sup>
- There was some support for the idea of a single tax relief rate of 30% for pension contributions, although this was more attractive to basic rate taxpayers, and some higher rate taxpayers thought it a bad idea. When this idea was presented as a matching contribution (i.e. for every £3 put in

<sup>32</sup> Wells et al (2011)

<sup>33</sup> In particular on early access, based on the evidence presented in PPI (2008)

<sup>34</sup> As opposed to only being allowed access in times of severe hardship

the Government would contribute £1) the idea was even more attractive to the research participants.

These broad findings have been used to inform the behavioural assumptions used in the PPI modelling to illustrate the potential impact on government expenditure and retirement incomes from changes in both policy and behaviour. While the consumer research can tell us about the possible direction of changes in savings behaviour – if there might be more or less – it can only ever give us a broad indication of the possible types of behavioural response that might be elicited.

However, the response to all of the proposals put forward was relatively small – there were no proposals that seemed to enthuse every individual, or appeared to completely change the outlook to pension saving of the research participants.

As this was a relatively small qualitative study it is not possible to convert these findings into a representative set of assumptions - there is no single 'correct' set of assumptions that can be derived from these very broad findings.

Some simplifications have also had to be made when setting behavioural assumptions. Some of the policy scenarios elicited different reactions from different groups. For example, the move to a single rate of tax relief had some support among basic rate taxpayers, but was not liked by some (but not all) higher rate taxpayers. In situations such as this we have combined the different group responses into an aggregated response to give an overall indication of the possible high level outcome. This may mean that some differential impacts – for example the proportion of savers or amount saved from basic rate and higher rate taxpayers – are not explored in this analysis.

However, the findings have been used to construct some plausible, but still illustrative, assumed behavioural responses, that are broadly consistent with the consumer research findings. The behavioural changes made in the model reflect possible changes in the numbers of people saving, the average pension contribution and the uptake of early access options.

As the behavioural assumptions used in this project are about private pension saving, they have little impact on the total spending on state pensions. The analysis in this chapter therefore concentrates on the impact on private pension saving, although there would be some relevance to state spending, when considering the impact on the proportion of individuals eligible for means-tested benefits and the associated costs.

Although the policies in the scenarios are assumed to be introduced in 2015, some changes in savings patterns (for example changes in contribution levels) are modelled as occurring from 2011. This is consistent with a policy being pre-announced and affecting behaviour before implementation.

**Radical scenario assumed behavioural responses****1. A positive response to a TEE savings environment**

This scenario assumes that the movement to TEE encourages more people to save, and that on average people save more as the tax advantages of saving are clearer, compared to the central scenario. As the scenario includes a generous early access system (unlimited access to any employee contribution), larger withdrawals than in other early access systems (such as 401(k) in the US) are assumed. Early access is also assumed to increase the number of people saving and their average contribution. For the modelling, this has been translated into the following specific assumptions:

- An increase in the number of individuals remaining auto-enrolled of 8% (reducing the opt-out rate from 33% to 25%)
- A 2% point increase in the average pension contribution as a result (although this may seem relatively small, this is effectively an increase of over 25% on the minimum contribution level required by auto-enrolment).
- 0.5% of all pension funds under management being withdrawn in early access withdrawals each year.<sup>35</sup>

**2. A negative response to the TEE environment**

The initial response to a switch to TEE is assumed to be a reduction in the number of pension savers compared to the central scenario, as existing savers react badly to the retrospective taxation of existing pensions. In the following years, pension saving becomes more attractive and the number of pension savers increases, but not back to the levels (in terms of the proportion of those auto-enrolled) seen without the change. On average, people save more as the tax advantages of saving are clearer.

As the scenario includes a generous early access system (unlimited access to any employee contribution), larger withdrawals than in other early access systems (such as 401(k) in the US) are assumed. Early access is also assumed to increase the number of people saving and their average contribution. For the modelling, this has been translated into the following specific assumptions:

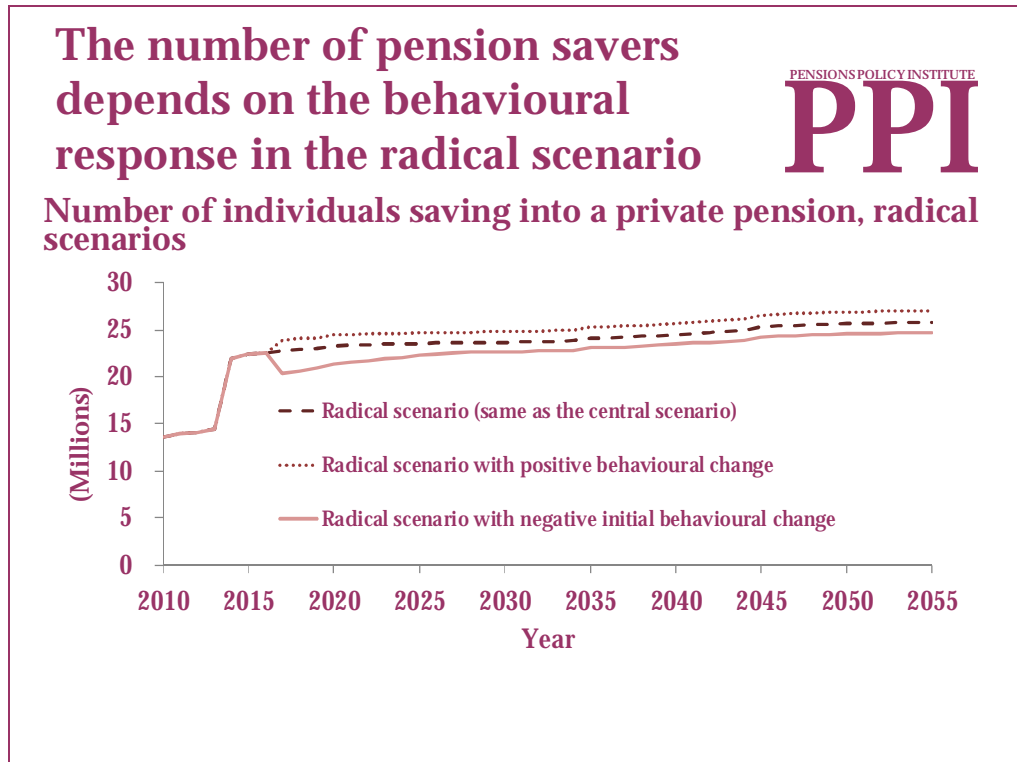
- An initial fall in the number of individuals remaining auto-enrolled of 17% (increasing the opt-out rate from 33% to 50%). Over a 10 year period the proportion remaining auto-enrolled increases to 60% of all those auto-enrolled (reducing the opt-out rate to 40%). This represents a polarised response between a loss of trust in pension saving in one group, but an increased attractiveness to a different group through a combination of a more transparent tax advantage and the availability of early access.
- A 2% point increase in the average pension contribution.
- 0.5% of all pension funds under management being withdrawn in early access withdrawals each year.

<sup>35</sup> This is higher than US experience, around 0.1%, but in the US access is restricted and tax penalised

**Results for the radical scenario**

For the radical scenario, we have therefore modelled both positive and negative behavioural responses. This means that the number of people saving in a pension could be higher or lower than in the current system, depending on the behavioural response (Chart 11). However, the impact due to the assumed behavioural change is still relatively small. By 2055, the number of people saving in a pension is estimated to be between 25 million and 27 million, depending on the behavioural response, compared to 26 million in the central scenario.

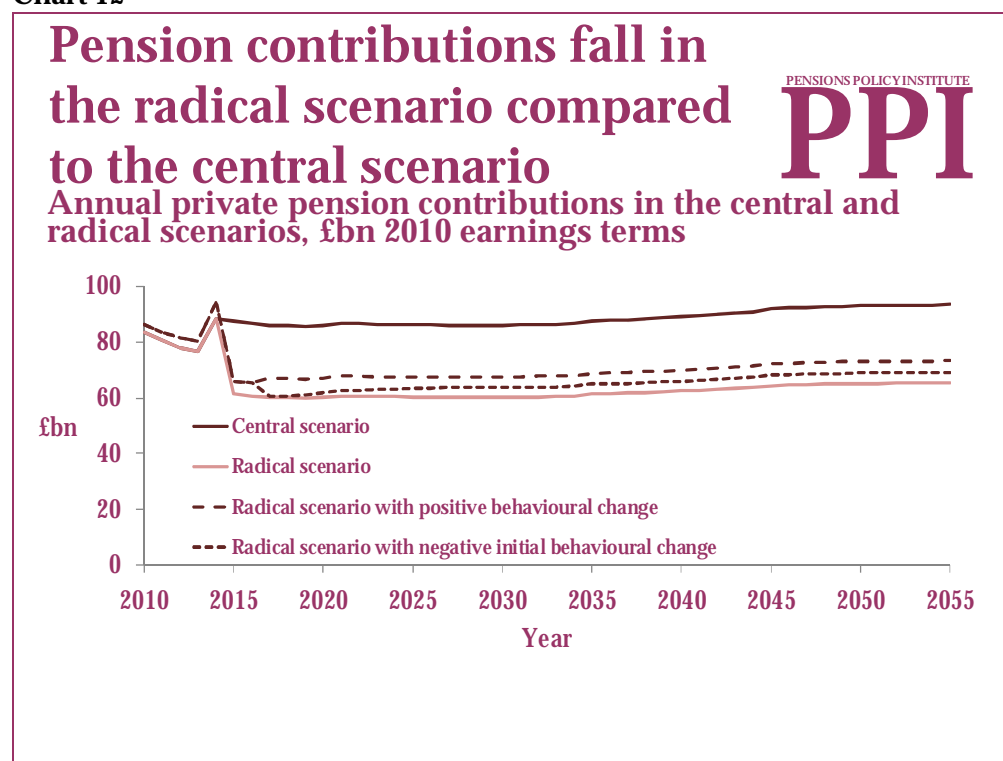
**Chart 11**



Pension contributions are modelled as increasing in both sets of behavioural assumptions used for the radical scenario (Chart 12). This is because even though in the negative scenario more people are assumed to opt-out after being auto-enrolled, leading to fewer savers, it is also assumed that those who do save contribute 2% more of their salary on average as a result of the advantages of saving being clearer, and the attractiveness of early access.

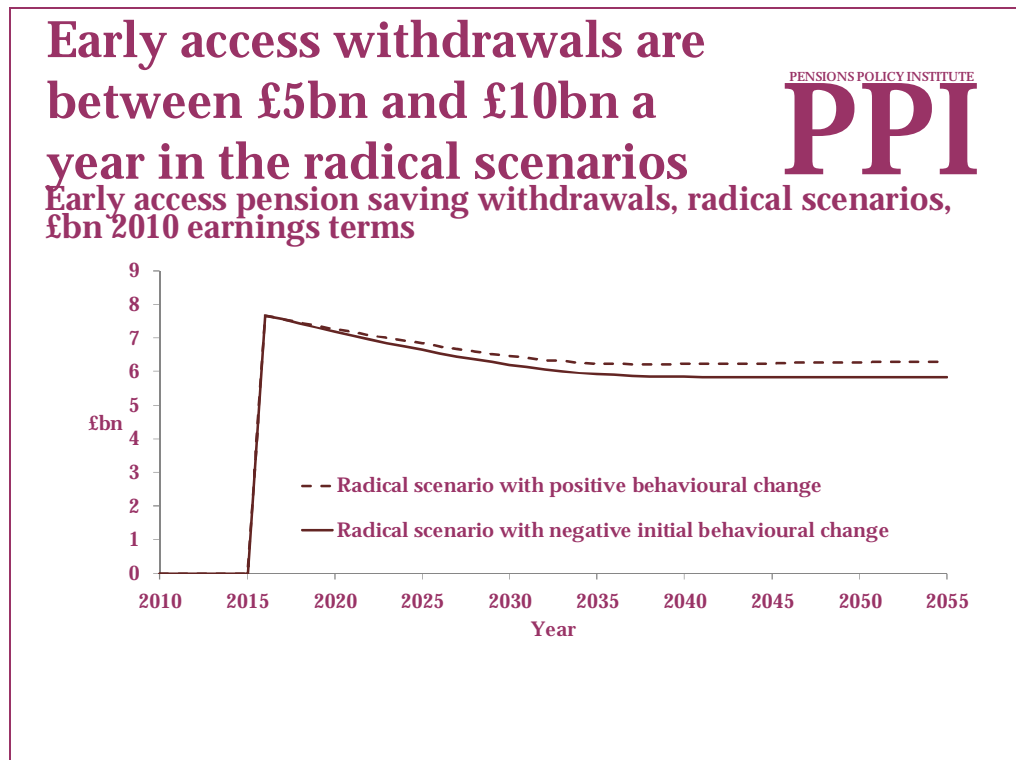
However, despite an assumed increase in the average amount contributed in the behavioural scenarios, as pensions operate under a TEE system in the radical scenario, no tax relief is paid in as a pension contribution (and individuals are assumed not to make up for the loss of tax relief with extra contributions). This leads to a fall in pension contributions relative to the central scenario. In the radical scenarios, by 2055 pension contributions fall to between £65bn and £75bn depending on the behavioural response, compared to contributions of £95bn under the central scenario.

Chart 12



As well as contributions being made to pensions, and funds being withdrawn on retirement, in the radical scenario there are also funds withdrawn before retirement as a result of the introduction of early access arrangements. In the radical scenario, this has been assumed to be in the form of access to that part of the pension fund built up by employee contributions. Based on the broad assumptions used in the radical behavioural scenarios,<sup>36</sup> between £5bn and £10bn a year is assumed to be withdrawn from pension funds each year (Chart 13). Chart 13 shows this initially declining over time, which is as a result of the stock of pension funds available to be withdrawn falling over time. These withdrawals are slightly smaller than the increase in contributions that are assumed as a result of behavioural changes (Chart 12), so based on these specific behavioural assumptions, there is a small positive net contribution to the stock of pension funds each year.

Chart 13

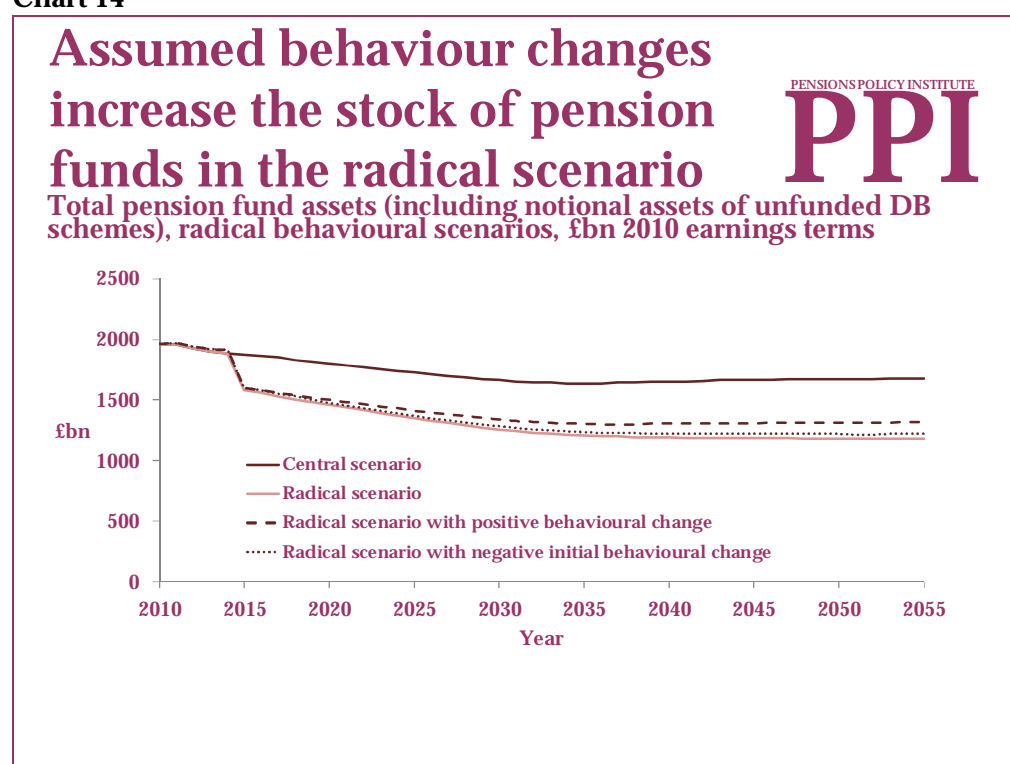


<sup>36</sup> 0.5% of the stock of pension funds withdrawn each year



Despite withdrawals from pension funds as a result of early access, the higher pension contributions as a result of the assumed behavioural changes feed through into a higher stock of pension funds than in the radical scenario without an assumed behavioural change (Chart 14). By 2055, the stock of pension funds is over £1.3 trillion (2010 earnings terms) in the positive behaviour change radical scenario, compared to less than £1.2 trillion in the radical scenario with no behaviour change. However, this is still considerably below the £1.7 trillion stock of pension funds in 2055 modelled in the central scenario.

Chart 14



Although the fall in pension contributions and the lower stock of pension funds may be important to the pensions industry (feeding through into lower funds under management), it does not necessarily have a detrimental impact on retirement income as the pensions derived from the smaller contributions and funds under management are paid free of tax. The impact on individuals is explored in later sections of this report.

**Alternative scenario assumed behavioural responses****1. Small positive behavioural change**

In this scenario we assumed that there is a broadly neutral reaction to the move to single rate tax relief (with the improvements for basic rate taxpayers offset by reductions for higher rate taxpayers), resulting in a small increase in the number of pension savers compared to the central scenario, and a higher average pension contribution.

As the scenario includes an early access system (to 25% of the fund at any time), a larger behavioural response than in other early access systems (such as 401(k) in the US) is assumed, though not as large as in the radical scenarios. Early access also helps increase the number of people saving and their average contribution. For the modelling, this has been translated into the following specific assumptions:

- An increase in the number of individuals remaining auto-enrolled of 3% (reducing the opt-out rate from 33% to 30%).
- A 1% point increase in the average pension contribution.
- 0.25% of all pension funds under management being withdrawn in early access withdrawals each year.<sup>37</sup>

**2. Stronger positive behavioural change in response to matching contributions**

In this scenario it is assumed that there is an increase in the number of pension savers compared to the central scenario as a result of the advantage of pension saving being made clearer through the use of matched contributions, and also a higher average pension contribution.

As the scenario includes an early access system (to 25% of the fund at any time), a larger behavioural response than in other early access systems (such as 401(k) in the US) is assumed, though not as large as in the radical scenarios. Early access also helps increase the number of people saving and their average contribution.

As matching contributions are more attractive to both higher and basic rate taxpayers than the single tax relief rate, changes in both the number of savers and the average contribution are higher than in the previous scenario, as well as the amount potentially withdrawn in early access. For the modelling, this has been translated in to the following specific assumptions:

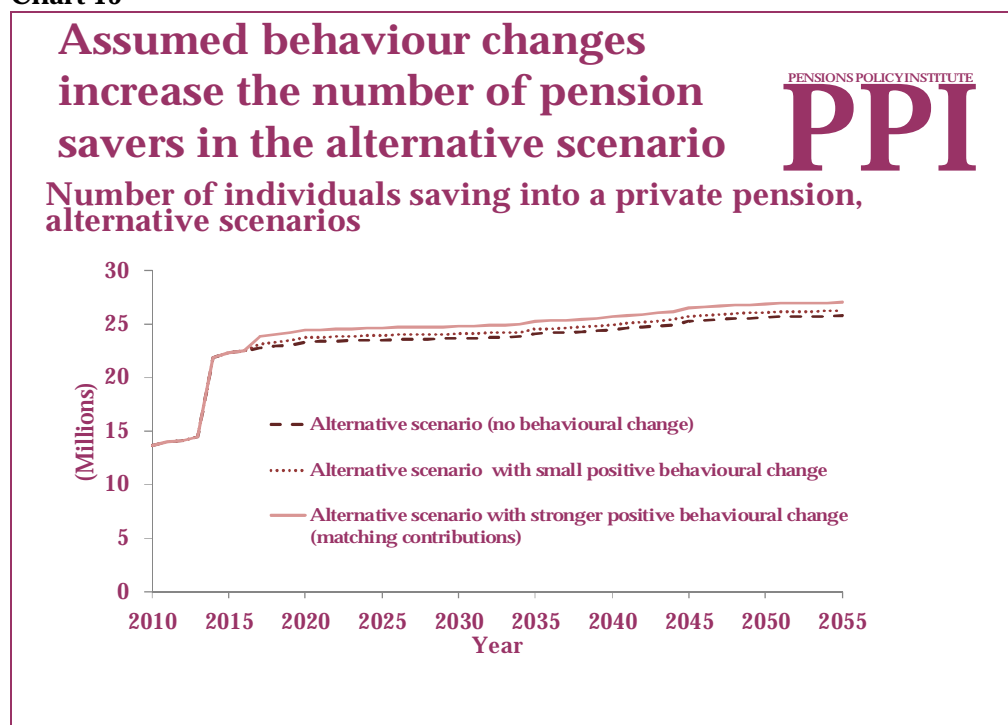
- An increase in the number of individuals remaining auto-enrolled of 8% (reducing the opt-out rate from 33% to 25%).
- A 2% point increase in the average pension contribution.
- 0.5% of all pension funds under management being withdrawn in early access withdrawals each year.

<sup>37</sup> Lower than in the radical scenario as access is restricted to 25%

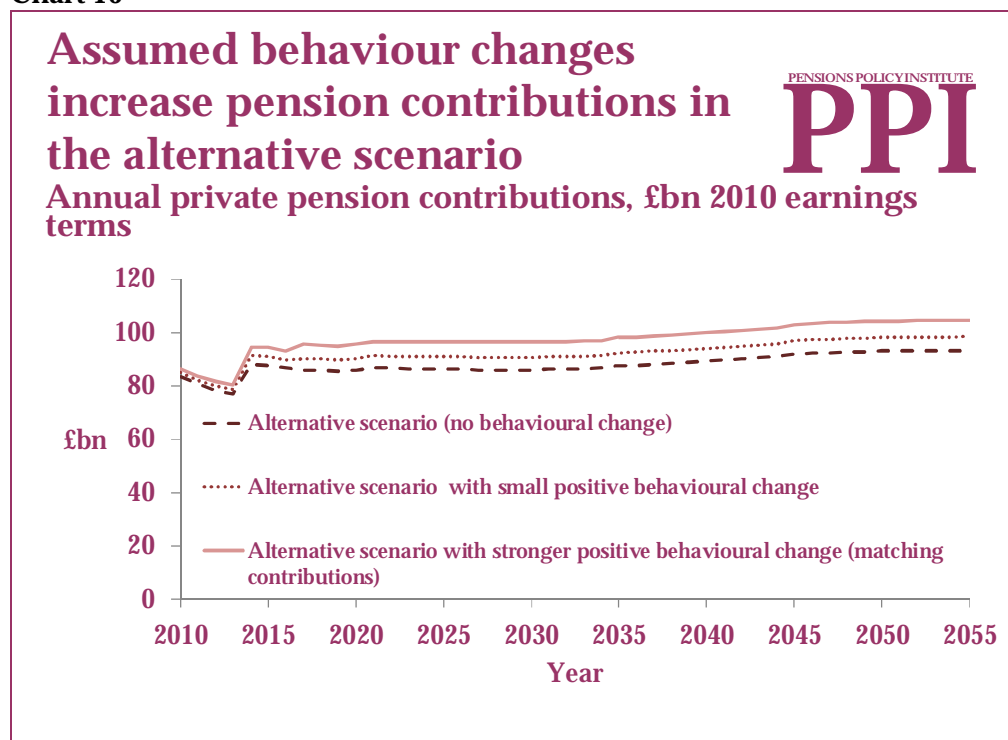
**Results for the alternative scenario**

Both sets of behavioural assumptions used in the alternative scenario are positive. These assumptions lead to an increase in the numbers of people saving (Chart 15) and the amount contributed to pensions (Chart 16).

**Chart 15**



**Chart 16**

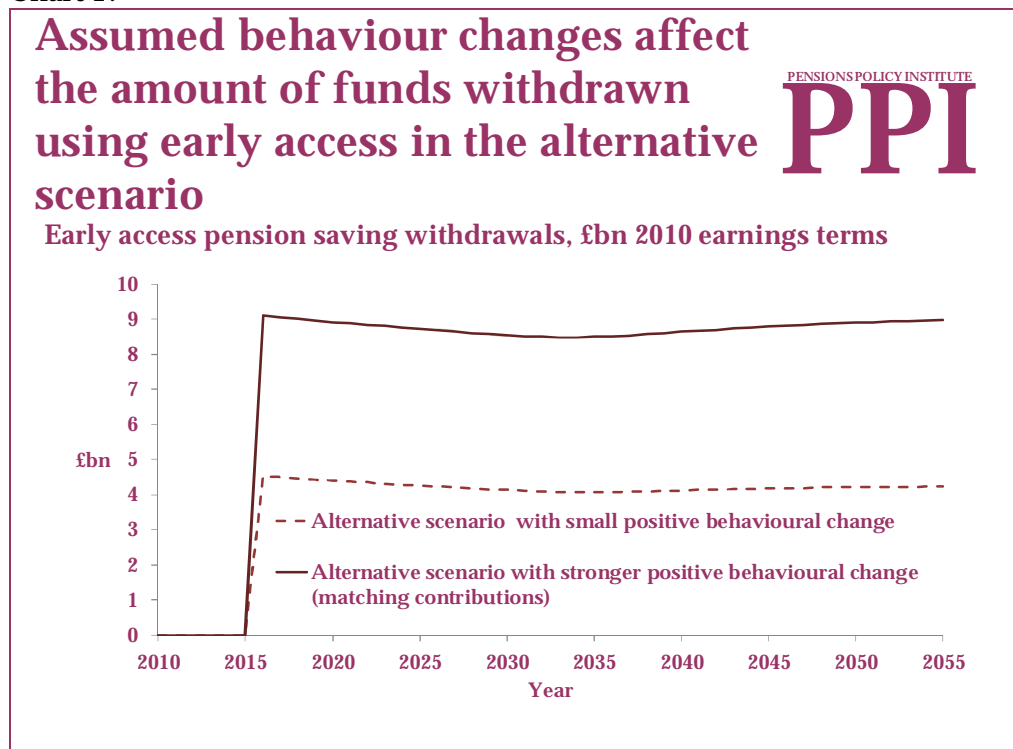


However, the impacts of the assumed behavioural changes are relatively small. Even with the strong positive behavioural response modelled for the introduction of a matching contribution system, the number of savers is increased to 27 million by 2055 (from 26 million assuming no behaviour change), and the amount contributed to pensions increased to £105bn from £95bn by 2055.

As well as contributions being made to pensions, and funds being withdrawn on retirement, in the alternative scenario there are also funds withdrawn before retirement as a result of the introduction of early access arrangements. In the alternative scenario, this has been assumed to be in the form of one-off access to 25% of the pension fund, with any funds withdrawn not available as part of the tax-free lump sum on retirement.

Based on the broad assumptions used in the alternative behavioural scenarios,<sup>38</sup> between £4bn and £10bn a year is assumed to be withdrawn from pension funds each year (Chart 17). These withdrawals are again slightly smaller than the increase in contributions that are assumed as a result of behavioural changes (Chart 16), so based on these specific behavioural assumptions there is a small positive net contribution to the stock of pension funds each year.

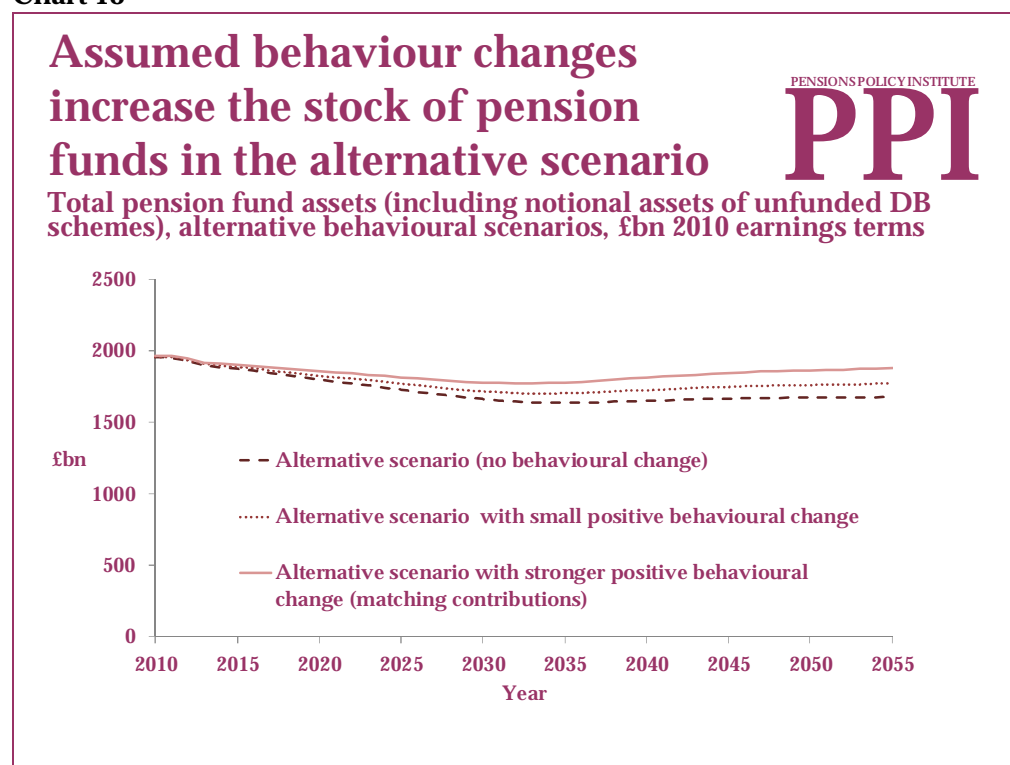
Chart 17



<sup>38</sup> 0.25% of the stock of pension funds withdrawn each year in the small positive change scenario, and 0.5% of the stock of pension funds withdrawn each year in the strong positive change with matching contributions scenario

Despite withdrawals from pension funds as a result of early access, higher pension contributions in the behavioural scenarios feed through into a higher stock of pension funds (Chart 18). By 2055, the stock of pension funds is almost £1.9 trillion (2010 earnings terms) in the positive behaviour change alternative scenario, compared to £1.7 trillion in the alternative scenario with no behaviour change (which is the same as the central scenario).

Chart 18

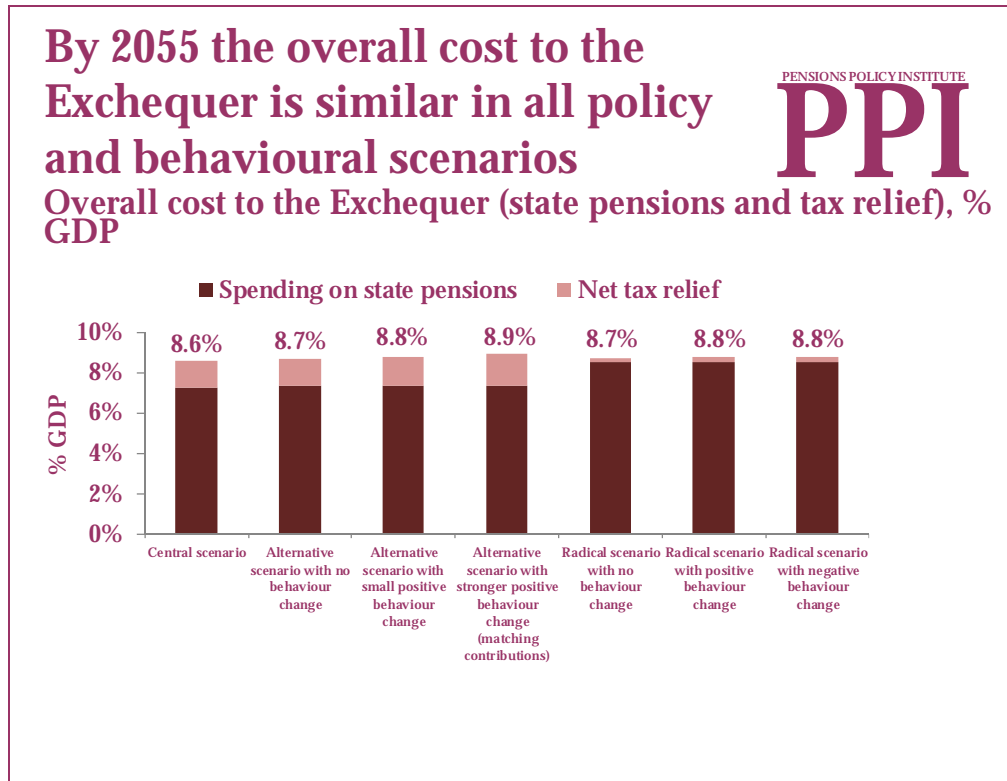


**Overall impact on costs to the exchequer**

The behavioural assumptions have little impact on the overall costs to the exchequer, compared to the differences between the central, radical and alternative scenarios before any behaviour change is allowed for (Chart 19).

The composition of the Government spending does however vary between the scenarios. In the radical scenario with the introduction of the higher single-tier pension of £140 a week, Government expenditure on state pensions is higher than in the central and alternative scenarios, but because of the move to TEE, tax relief is lower.

Chart 19



## Chapter six: the impact of the policy scenarios on individuals

Although aggregate analysis can give an indication of the impact of policy reforms and behavioural changes on Government spending and the pensions industry, it does not tell us much about the impact of the reforms on individuals and their retirement incomes. This chapter uses the PPI Individual Model to consider the impact on a small number of hypothetical individuals.

These individuals are not representative of the population as a whole, and cannot cover the whole range of characteristics found in different individuals. However, they can provide an indication of the type of impact that various policies could have on individual retirement incomes.

Using a small number of hypothetical individuals, PPI modelling suggests that in the central scenario:

- None of the individuals modelled achieve an adequate income in retirement, based on analysis of net replacement rates. However, this analysis only considers pension income, and individuals may have other income or assets that could be used in retirement, such as housing wealth or other savings.
- The low and median earning individuals receive the majority of their pension income from the state in the central scenario.
- The high earning man however, with higher pension contributions than the other examples and much higher earnings, gets the majority of his pension income from private pensions even though he does not meet his adequacy target. But even the high earner, if he lives long enough, could see almost half of his annual pension income being provided by the state.

In the radical scenario, with a single-tier state pension of £140 a week increased in line with the 'triple lock', a single TEE tax regime for pensions and ISAs and allowing early access to pension saving:

- The low earner, median earner and high earner all receive higher retirement incomes under the radical scenario than in the central scenario.
- Incomes do not fall as much during retirement as in the central scenario or the alternative scenario, as a result of the £140 a week single state pension being increased by the 'triple lock'.

In the alternative scenario, based on current policy with the introduction of a pension income disregard in Pension Credit, a single rate of tax relief on pension contributions of 30% and allowing early access to pension saving:

- The low earner and median earner also have higher retirement income than in the central scenario.
- But the high earner has a lower income than in the central scenario as a result of the restriction of tax relief to 30%.

Even after reform scenarios are introduced, adequacy of pension income remains an issue. For a median earning woman,

- In all scenarios, and using the behavioural responses, retirement income is still lower than the replacement rate suggested by the Pensions Commission as an adequate retirement income.<sup>39</sup>
- Increasing contributions under the central scenario gets her closer to her desired replacement rate, but still does not achieve it.
- However, this analysis only considers pension income, and individuals may have other income or assets that could be used in retirement, such as housing wealth or other savings.

#### The individuals used

Three different individuals were modelled in the Individual Model for this analysis:

##### *A median earning woman*

- Median-earning woman aged 30 in 2015.
- She starts working full-time from the age of 21 in 2006.
- Between the ages of 26 and 32 she takes time out of work to care for her children during which time she qualifies for six years of Home Responsibilities Protection (HRP).
- She returns to work full time for thirteen years till she is 45, then she takes two years out of work to care for her mother (and qualifies for two more years of HRP). She returns to work at 47 and works for another thirteen years.
- During her 30 years of full-time work she earns at median age-specific earnings for women.
- During her full-time employment only she contributes to a NEST scheme at minimum contributions.
- She retires at SPA at age 68 in 2053.

##### *A high-earning man*

- High-earning man aged 30 in 2015.
- He starts working full-time from the age of 24 in 2009.
- He starts off earning £40,000 in 2009 increasing at a real rate of 3% per year until retirement.<sup>40</sup>
- Throughout his career he contributes 3% to an occupational DC pension scheme and receives 10% employer contributions.
- He retires at SPA at age 68 in 2053.

##### *A low-earning man*

- Low-earning man aged 30 in 2015.
- He starts working full-time from the age of 18 in 2003.
- During his career he earns at low age-specific earnings for men (30<sup>th</sup> percentile).

<sup>39</sup> Pensions Commission (2005). For a full discussion of adequacy measures see PPI (2009)

<sup>40</sup> This earnings pattern has been used so that this individual is a higher rate tax-payer in retirement



- During his full-time employment he contributes to a pension scheme at the minimum contribution level required by auto-enrolment.
- He retires at SPA at age 68 in 2053.

Although he is labelled as a low earning man, his full work history and gender-specific earnings levels means that his retirement income is in fact higher than the median earning woman example.

In the current scenario most income comes from the state, and incomes are below adequacy levels

An important issue in the current system, and one that is often used as a driver for calls for reform, is the issue of adequacy of retirement income. The most commonly used measure of adequacy is the replacement rate, which compares post-retirement net income to pre-retirement net income.<sup>41</sup> The Pensions Commission<sup>42</sup> suggested that the replacement needed for an adequate income would vary according to income, with individuals who had higher income when working requiring a lower replacement rate to have an adequate income. Based on the final years of salary of our examples, and using the Pensions Commission tables:

- The median earning woman would require a replacement rate of 67% of pre-retirement income.
- The high earning man would require a replacement rate of 50% of pre-retirement income.
- The low earning man would require a replacement rate of 70% of pre-retirement income.<sup>43</sup>

<sup>41</sup> See PPI (2009) for further information

<sup>42</sup> Pensions Commission (2005) A New Pension Settlement for the Twenty-First Century

<sup>43</sup> The Pensions Commission used gross income to calculate the required replacement rates. In this and other analysis, we have applied these benchmarks to net income, reflecting the fact that in the scenarios modelled there are considerable changes in the tax and National Insurance treatment between those below and those above state pension age.

In the central scenario none of the illustrative individuals modelled achieve these replacement rates (Table 3).

**Table 3: Actual and target net replacement rates for illustrative individuals reaching SPA (68) in the current scenario in 2053**

	<b>Low earning man</b>	<b>Median earning woman</b>	<b>High earning man</b>
<b>Actual net replacement rate</b>	57%	53%	23%
<b>Target net replacement rate</b>	70%	67%	50%

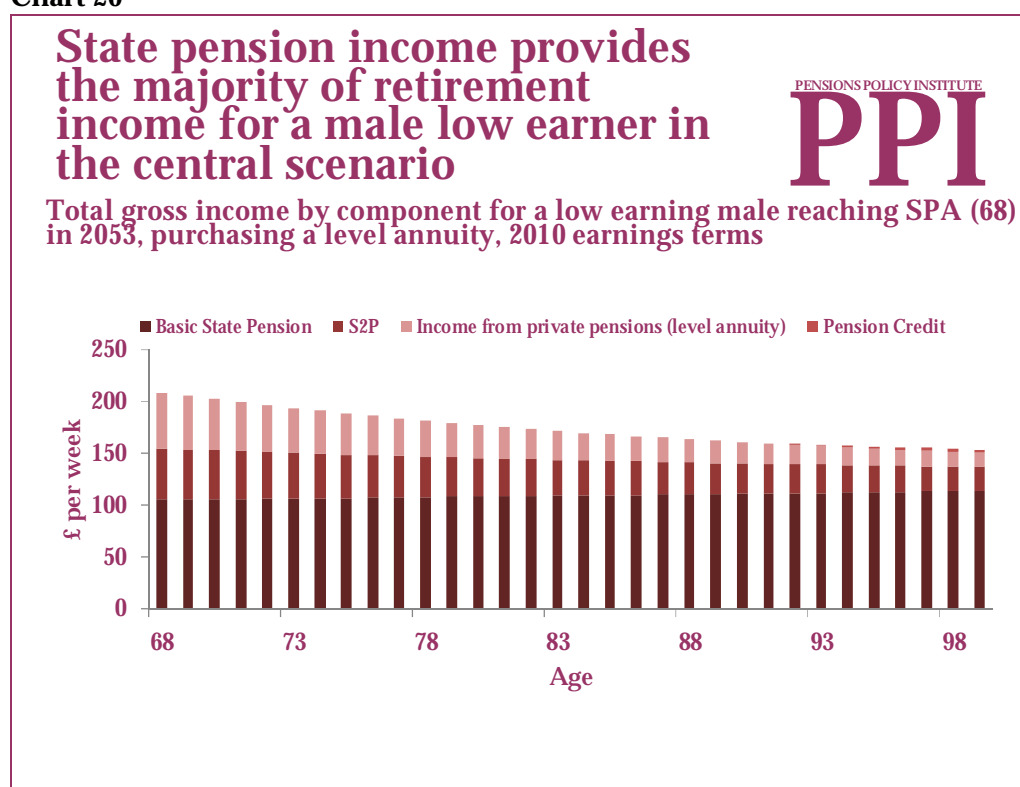
The high earning man is a long way short of his target replacement rate. Although he has higher contributions than the minimum (of 13% of all salary) resulting in a large private pension (almost £600 a week in 2010 earnings terms when he retires), his final salary before retiring is very high (over £2,400 a week in 2010 earnings terms), and so initially state pension income makes very little contribution to his retirement income. However, this analysis only considers pension income, and individuals (in particular the high earner) may have other income or assets that could be used in retirement, such as housing wealth or other savings.

The low and median earning individuals receive the majority of their pension income from the state in the central scenario (Charts 19 and 20). The high earning man however, with higher pension contributions than the other examples and much higher earnings, gets the majority of his pension income from private pensions even though he does not meet his adequacy target (Chart 22). But even the high earner, if he lives long enough, could see almost half of his annual pension income being provided by the state.

**The modelled low earning man**

The low earning man is assumed to earn at the 30<sup>th</sup> percentile of male age-specific full-time earnings. The majority of income for the modelled male low earner in the central scenario comes from the Basic State Pension (BSP) (Chart 20). S2P and private pension income (based on making the minimum level of contributions under auto-enrolment) provide similar amounts each in the first year in which the low earner reached state pension age (SPA). As the low earner progresses through retirement, income from the BSP increases (in 2010 earnings terms) as on average the ‘triple lock’ used to uprate BSP increases faster than earnings. However, S2P declines relative to earnings as it is uprated in line with the CPI, and income from private pensions falls even faster relative to average earnings as it is assumed to be derived from a level annuity, and so does not increase at all during retirement.<sup>44</sup> If the low earning man lives into his early 90s, he would become eligible for Pension Credit.

Chart 20



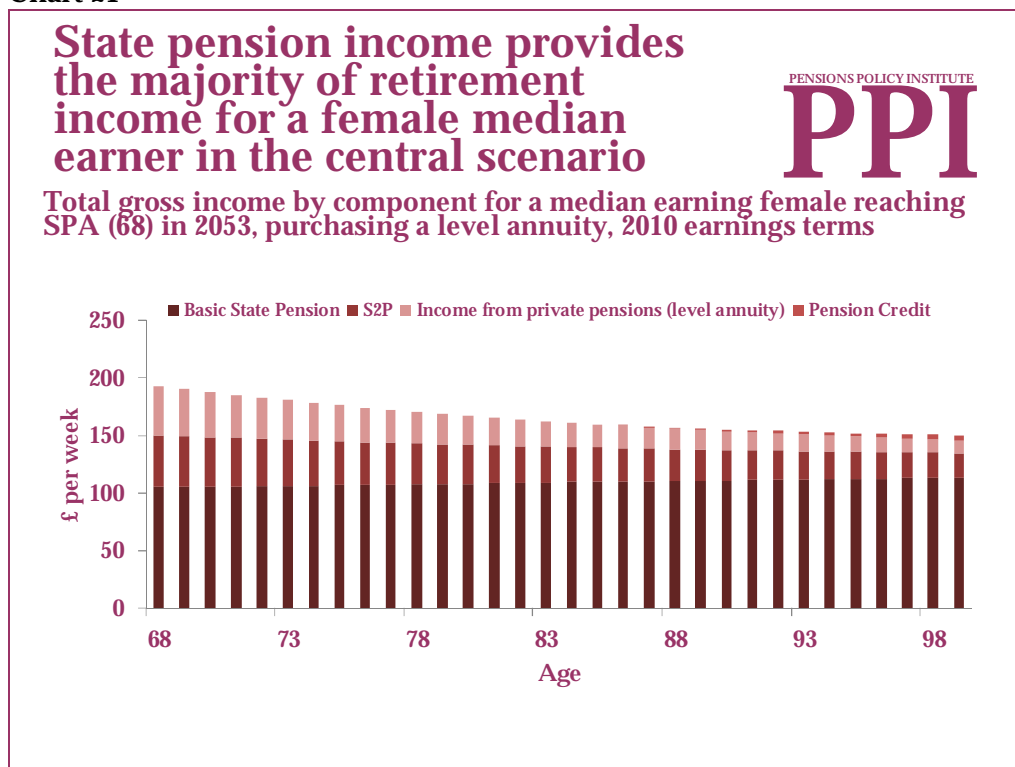
<sup>44</sup> If the individuals in this paper are assumed to purchase a price-indexed annuity rather than a level annuity, the findings are not altered significantly – initial income from private pensions is lower, but as some price indexation is assumed during retirement, income does not fall as much as in the examples shown here.

**The modelled median earning woman**

The composition of retirement income for the modelled median earning female in the central scenario (Chart 21) is similar to that of the modelled male low earner. However, even though in this example the woman has median female full-time earnings,<sup>45</sup> her retirement income is lower than that of the low earning man, who has earnings at the 30<sup>th</sup> percentile of male full-time earnings. This is partly because male full-time earnings are higher than female full-time earnings, but also because the woman is assumed to have more career breaks during her working life. As a result of this pattern of earnings, income from private pensions are lower for the median earning woman than for the low earning man. This is further exacerbated by the woman receiving a lower annuity rate, reflecting her higher life expectancy.

As with the low earning man, the ‘triple lock’ indexation of the BSP means that the modelled median earning woman’s BSP increases relative to earnings during her retirement. The uprating of S2P by the CPI and the assumed use of a level annuity mean that both of these components of income fall relative to earnings during retirement, and by the time she reaches age 90 the modelled median earning woman is eligible for Pension Credit.

Chart 21



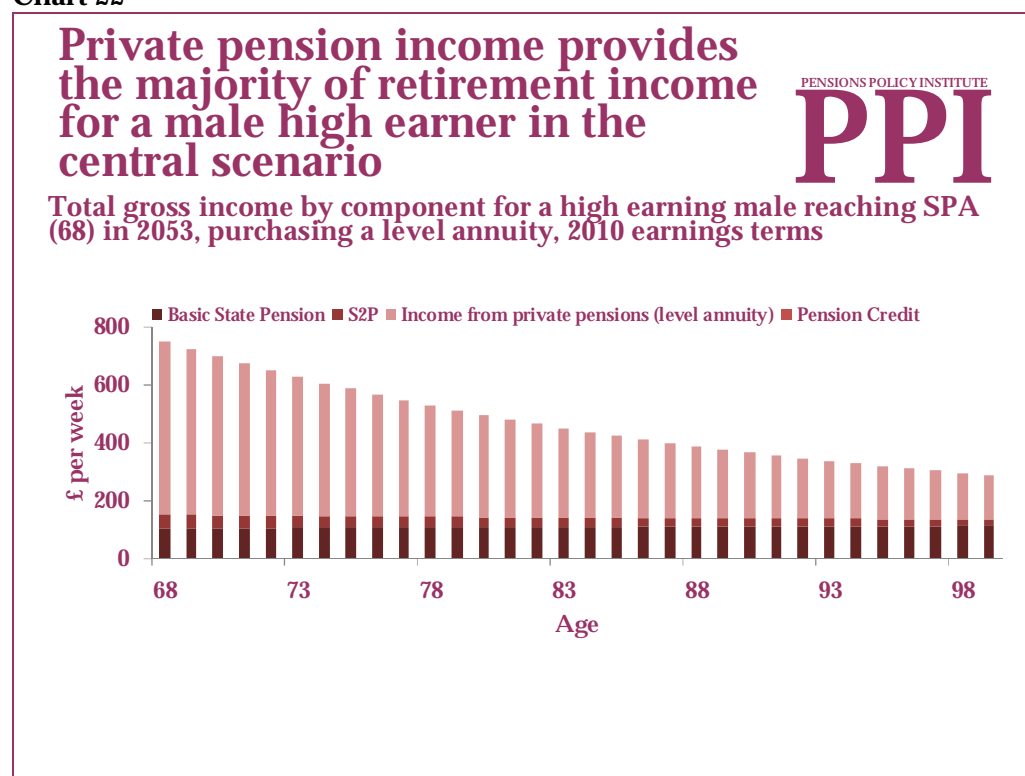
<sup>45</sup> That is, in each year in which she works she has earnings at the median level of all women of that age in full-time employment

### ***The modelled high earning man***

The modelled high earning man is assumed to earn £40,000 at age 24 in 2009, and receive earnings increases of 3% a year above price inflation. Unlike the low and median earning examples, the modelled high earning man receives the vast majority of his retirement income from private pension income in the central scenario (Chart 22). This is because he is assumed to have private pension contributions considerably higher than the minimum levels required for auto-enrolment, and because he has earnings high enough to be a higher rate taxpayer in every year in which he works.<sup>46</sup>

However, during retirement if the modelled high earning man is assumed to buy a level annuity, his private pension income declines rapidly relative to earnings, while the 'triple lock' uprating of the BSP means that the BSP becomes a more important component of income for the high earner as he ages. If he lives into his late 90s, over 40% of his income may come from state pensions.

Chart 22



<sup>46</sup> He is assumed to have an employer contribution of 10% and an employee contribution of 3%, and as a higher rate taxpayer also receives tax relief at 40%.

**The impact on individuals of policy options**

In the radical scenario, with a single-tier state pension of £140 a week increased in line with the 'triple lock', a single TEE tax regime for pensions and ISAs and allowing early access to pension saving:

- The low earner, median earner and high earner all receive higher retirement incomes under the radical scenario than in the central scenario.
- Incomes do not fall as much during retirement as in the central scenario or the alternative scenario, as a result of the £140 a week single state pension being increased by the 'triple lock'.

In the alternative scenario, based on current policy with the introduction of a pension income disregard in Pension Credit, a single rate of tax relief on pension contributions of 30% and allowing early access to pension saving:

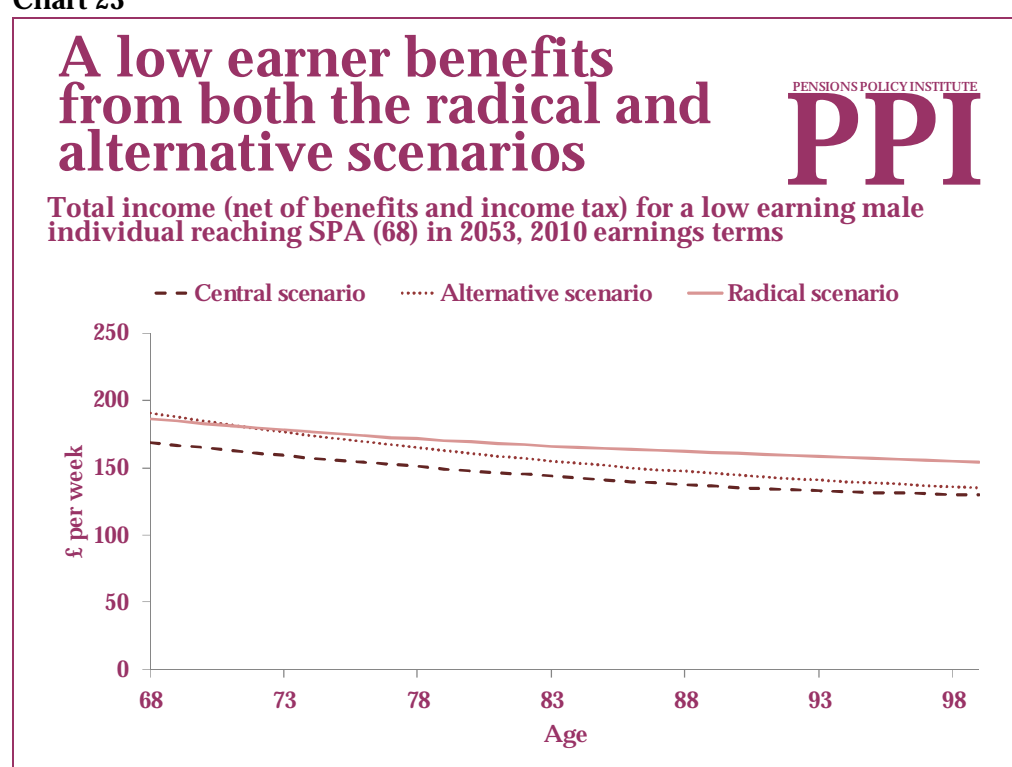
- The low earner and median earner also have higher retirement income in the alternative scenario than in the central scenario.
- But the high earner has a lower income under the alternative scenario as a result of the restriction of tax relief to 30%.

***The modelled low earning man***

Under both the radical and alternative scenarios, the modelled low earning man receives a higher retirement income than in the central scenario (Chart 23).

In the radical scenario, the low earning man receives a higher state pension income than in the central scenario. As in the radical scenario the entire state pension is increased by the 'triple lock', rather than part (S2P) being increased in line with the CPI as in the central scenario. As a result retirement income in the radical scenario remains well above retirement income in the central scenario throughout retirement.

Chart 23



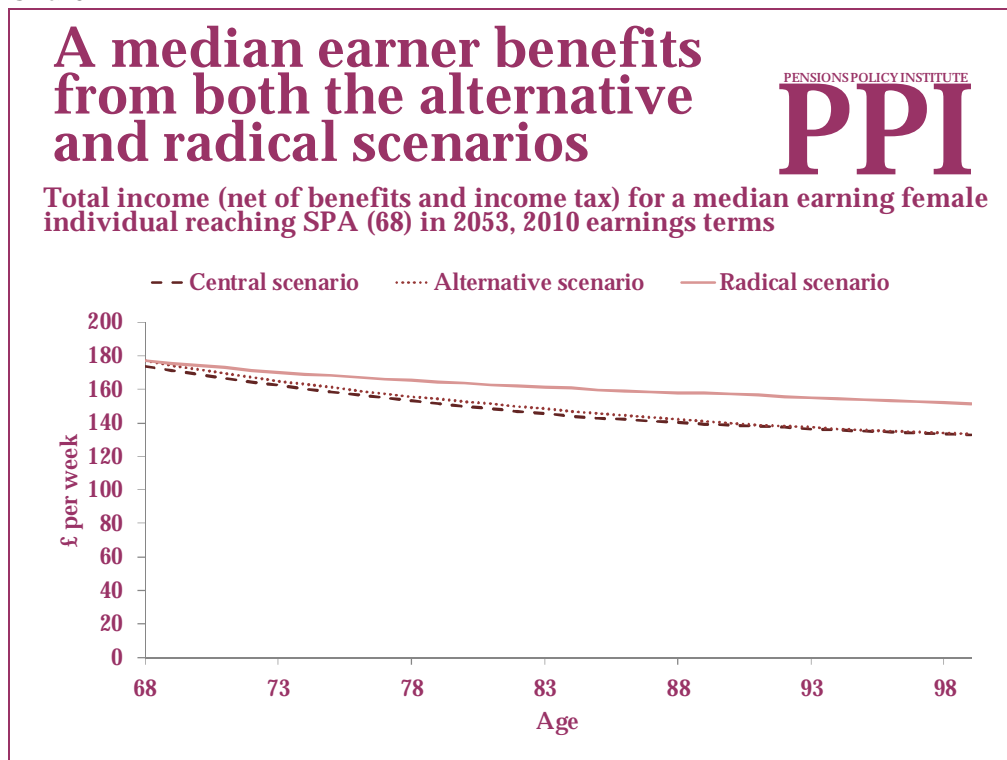
In the alternative scenario, the main benefit to the modelled low earning man comes from the single 30% rate of tax relief, which increases his private pension income relative to the private pension income received in the central scenario. However, the extra value derived from this higher private pension income is reduced during retirement, as it is assumed that a level annuity is purchased, and so the value of the extra private pension income in the alternative scenario above the central scenario falls relative to average earnings during retirement.

**The modelled median earning woman**

Under both the radical and alternative scenarios, the modelled median earning woman receives a higher retirement income than in the central scenario (Chart 24).

In the radical scenario, the median earning woman receives a higher state pension income than in the central scenario. As in the radical scenario the entire state pension is increased by the ‘triple lock’, rather than part (S2P) being increased in line with the CPI as in the central scenario. As a result, retirement income in the radical scenario remains well above retirement income in the central scenario throughout retirement.

Chart 24



In the alternative scenario, the main benefit to the modelled median earning woman comes from the single 30% rate of tax relief, which increases her private pension income relative the private pension income received in the central scenario. However, the extra value derived from this higher private pension income is reduced during retirement, as it is assumed that a level annuity is purchased, and so the value of the extra private pension income in the alternative scenario above the central scenario falls relative to average earnings during retirement.



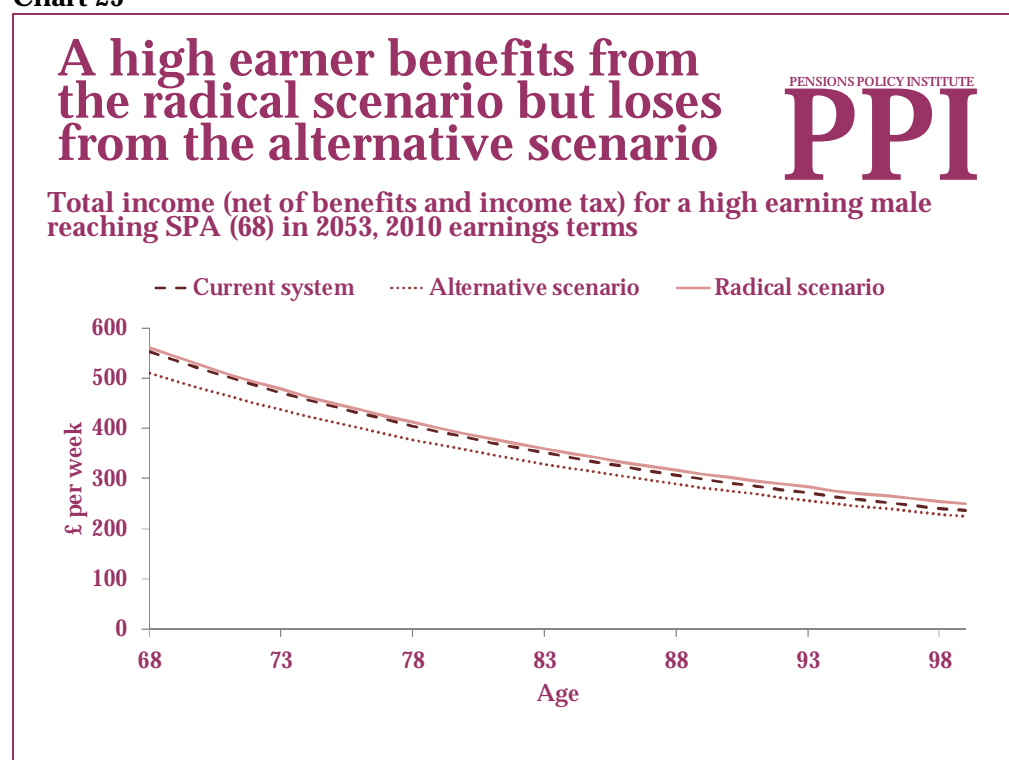
***The modelled high earning man***

Although the modelled high earning man gains from the radical scenario compared to the central scenario, he loses from the alternative scenario due to the reduction in rate of tax relief from 40% to 30% for higher rate taxpayers (Chart 25).

In the radical scenario, like the modelled low earning man and median earning woman, the modelled high earning man receives a higher state pension income than in the central scenario. Although this gain is initially relatively small (as he would have been entitled to a full BSP and full S2P in the central scenario), the difference between retirement income in the radical scenario and central scenario increases during retirement as in the radical scenario the entire state pension is increased by the ‘triple lock’, rather than part (S2P) being increased in line with the CPI as in the central scenario.

As this individual is a higher rate taxpayer when working and (at least initially) when in retirement, there is little difference in the private pension income received in the radical and central scenarios.<sup>47</sup>

**Chart 25**



<sup>47</sup> If he had been a basic rate taxpayer in retirement, the switch from TEE to EET in the radical scenario may have led to a lower private pension income than in the central scenario, as the tax relief on contributions in the central scenario would have been at a higher rate than the tax paid when the pension came into payment.

In the alternative scenario, the modelled high earner receives a lower private pension income than in the central scenario, as tax relief on pension contributions is paid at 30% in the alternative scenario compared to 40% in the central scenario. The difference between the private pension income in the alternative and central scenarios reduces during retirement as private pension income falls relative to average earnings (as a level annuity is assumed in both scenarios).

***Individual behavioural changes***

It is also possible to incorporate some behavioural changes into the individual modelling, broadly in line with the behavioural assumption sets used in the aggregate modelling:

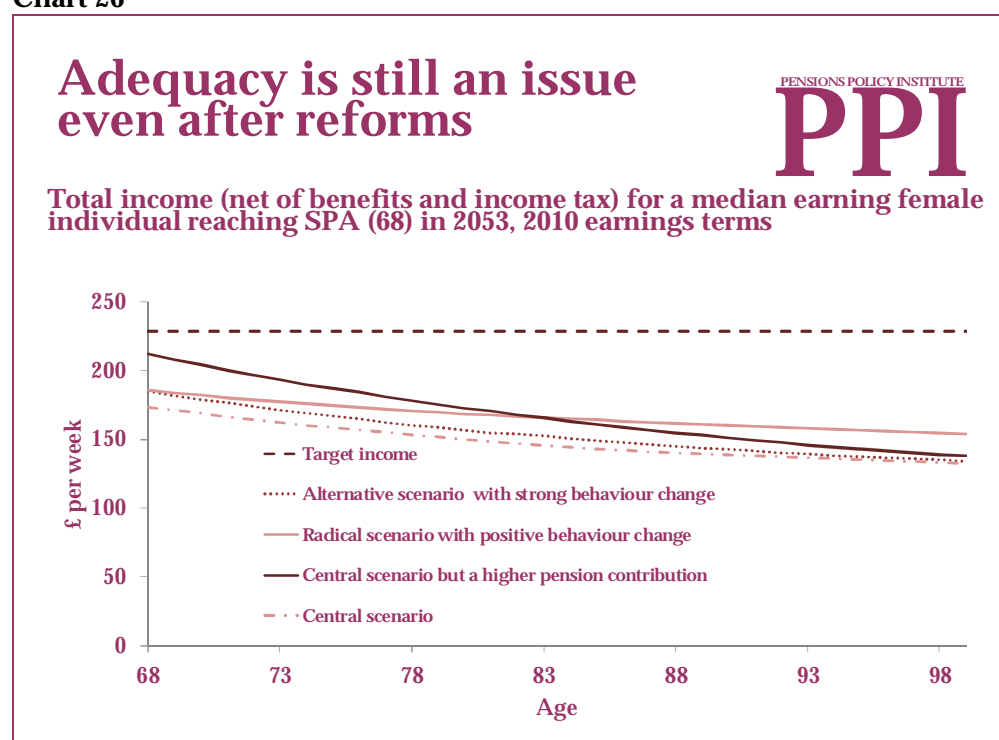
- In the radical scenario, incorporating an additional 2% contribution to private pensions, and allowing for one early access withdrawal in 2030
- In the alternative scenario, incorporating an additional 1% contribution to private pensions, and allowing for one early access withdrawal in 2030
- In the alternative scenario, incorporating an additional 2% contribution to private pensions, and allowing for one early access withdrawal in 2030
- As a comparison, we have also used the higher contribution rates in the high earner example in the median earner example under the central scenario. This shows what might be achieved in the central scenario if a way could be found to increase pension contributions towards those seen in existing good DC employer schemes.

This is only a very small subset of the possible behavioural responses that could be modelled. For example, some individuals who might not save in the current system might save under policy reforms, or early access withdrawals may happen at different times and for different amounts, and some individuals could save at the higher rates under the policy reform options and not make use of early access.

For a median earner, even after the policy changes and using the behavioural responses, retirement income is still lower than the replacement rate suggested by the Pensions Commission as an adequate retirement income (Chart 26).<sup>48</sup>

Increasing contributions under the central scenario gets the median earning individual closer to her desired replacement rate, but still does not achieve it. However, this analysis only considers pension income, and individuals may have other income or assets that could be used in retirement, such as housing wealth or other savings.

Chart 26



The policy changes incorporated in the scenarios modelled in this report do not, by themselves, automatically lead to an adequate retirement income for individuals. Based on the consumer research findings, possible behavioural responses to the scenario could increase or decrease saving, or increase or decrease retirement income depending on some very individual-specific reactions.

While improving pension contribution rates up to the levels seen in good employer provision would go some way to improving adequacy for the median earning woman, it is not clear how that could be achieved – either in the central scenario, or in the radical and alternative scenarios modelled. Further research could be focussed on what types of policy change could lead to the size of behavioural response needed to help achieve adequate incomes.

<sup>48</sup> Pensions Commission (2005). For a full discussion of adequacy measures see PPI (2009)

## Appendix 1: The PPI models

In this research, the PPI used its suite of economic models, developed with funding from the Nuffield Foundation.<sup>49</sup> These include:

- The Individual Model
- The Aggregate Model
- The Distributional Model

### ***The Individual Model***

The Individual Model projects future state and private pension income for hypothetical individuals or hypothetical couples.

Assumptions are made regarding:

- Individual characteristics, for example, age and whether they are earning or saving in each particular year.
- Past and future parameters to the pension system, for example, how the parameters for state pensions will change in future.
- Economic assumptions, for example, future price and earnings inflation, investment returns and rent increases.

Based on these assumptions, the model estimates future income from state pensions (Basic State Pension, Graduated Retirement Benefit, SERPS and State Second Pension), private pensions and means-tested benefits (Pension Credit, Housing Benefit and Council Tax Benefit), as well as amounts paid in income tax.

### ***The Aggregate Model***

The Aggregate Model projects long-term state expenditure on pensions and contracted-out rebates, aggregate income from the private pensions system and the annual fiscal cost of tax relief.

The starting point for this projection is a set of official projections of the future number of people in the UK by age and sex. This is broken down further by employment status using a projection of future employment rates, which in turn based on an official projection of activity rates. Finally, an earnings distribution is superimposed, which is based on an anonymised 1% sample of National Insurance records supplied by the Department of Work and Pensions.

Based on this labour market projection, the model projects future state expenditure on SERPS, State Second Pension, and contracted-out rebates, as well as contributions to and income from private pensions. Future state expenditure on Basic State Pension is projected using data supplied by the Department for Work and Pensions.

<sup>49</sup> More information on all three models is available in PPI (2005) and the PPI website, [www.pensionspolicyinstitute.org.uk](http://www.pensionspolicyinstitute.org.uk)

***The Distributional Model***

The Distributional Model projects forward the distribution of incomes for people over state pension age. Types of income modelled include state and private pensions, earnings, income from investments and state means-tested benefits.

The Distributional Model is a static microsimulation model, similar to the Policy Simulation Model used within the Department of Work and Pensions. It uses a sample of around 8,000 pensioner households, from the Pensioners' Incomes Series. Each year, the incomes of the individuals in the dataset are adjusted in line with the Aggregate Model to take account of future changes in income and they are reweighted to take account of future demographic changes. This method ensures that projections from the Distributional Model are consistent with those from the Aggregate Model.

## Appendix 2: Modelling assumptions

The models use a wide range of assumptions, covering economic assumptions (such as price inflation and earnings growth), pension assumptions (such as the level of opt-out from auto-enrolment, the shift from Defined Benefit to Defined Contribution), as well as specific assumptions on the policies being analysed, and individual characteristics within the Individual Model. The main assumptions used in this research are:

- Population projections in line with the ONS 2008-based principle projections
- Long-term earnings growth of 4.5% in nominal terms
- Long-term CPI inflation of 2%
- Long-term RPI inflation of 2.87% (consistent with the CPI inflation)
- Short-term (to 2015) assumptions for earnings growth, CPI and RPI in line with the OBR projections for the 2010 Budget
- Long-term investment returns of 6% in nominal terms
- The proportion of employees who are active members of private sector DB schemes is assumed to fall by 80% between 2006 and 2035 and remain constant thereafter.
- After the introduction of auto-enrolment from 2012, 1/3rd of those auto-enrolled are assumed to opt-out
- After the introduction of auto-enrolment from 2012, employers change their behaviour with regards to pension provision in line with survey evidence.<sup>50</sup>

### Employer response

The PPI models currently use a 'modelled employer response' scenario as the baseline assumption. These assumptions model what might happen if employers act in the way suggested by a survey conducted by Deloitte of their likely responses to the reforms.<sup>51</sup> The Deloitte survey has been chosen because it is the most comprehensive published survey of likely employer responses where there is sufficient detail to allow examination of the findings and methodology used, and to allow for the results to be translated into assumptions. There has been more recent survey evidence from the DWP, but only headline findings have been published.

The scenario is illustrative, since there is limited evidence for how employers will react to the reforms and a significant minority are still not yet aware of the reforms. There is also uncertainty as to how the recent deterioration in economic conditions will impact on employer behaviour. In this scenario, employers are assumed to act in different ways, with some keeping their scheme open on current terms and others closing their scheme or reducing their contribution levels (Table A1).<sup>52</sup>

<sup>50</sup> Based on Association of British Insurers (ABI) Deloitte (2006), NAPF (2006), see PPI (2007) for more information.

<sup>51</sup> See ABI Deloitte (2006) and Deloitte (2006) for more details of the Deloitte survey

<sup>52</sup> NAPF (2006)

**Table A1:<sup>53</sup> Assumptions made in the modelled employer response scenario for employers running existing exempt pension schemes**

	<b>DB schemes: % of members</b>	<b>DC schemes: % of members</b>
<b>Open and grow</b> Keep scheme open for all new recruits, applying auto enrolment to the existing scheme on existing terms.	12%	31%
<b>Open and reduce</b> Keep scheme open for all new recruits but reduce contribution rates for new and existing members.	8%	11%
<b>Limit and maintain</b> Restrict eligibility so that only senior managers are able to join the existing scheme on existing terms in future. Individuals who already belong to existing schemes can continue accruing new pension rights on existing terms until they leave the company.	19%	37%
<b>Shrink and maintain<sup>54</sup></b> Close schemes altogether for new members but retain contribution rates for existing members. Individuals who already belong to existing schemes can continue accruing new pension rights on existing terms until they leave the company.	61%	13%
<b>Shrink and reduce</b> Close schemes to new members and future accruals.	0%	8%

There is limited information from the survey about whether employers would auto enrol their employees into an existing type of pension scheme or into NEST. Nor is there much evidence on whether they would close their existing scheme and how much their contribution would be. Some stylised assumptions have therefore been made. Half of employees who are not eligible to join existing schemes on existing terms from 2012 are assumed to instead receive combined contributions of 9% of all earnings into an existing type of pension provision.<sup>55</sup> The other half receive a combined contribution of 8% of band earnings into NEST.

<sup>53</sup> Based on NAPF 2006 Table 4

<sup>54</sup> Defined Benefit schemes that have already closed to new members, or that are assumed to do so before 2012, are included in this row.

<sup>55</sup> This is broadly the average contribution rate into all Defined Contribution schemes (including employee contributions, employer contributions and tax relief). Source: Government Actuary Department (GAD) 2006 para 8.8.

## Acknowledgements and Contact Details

The Pensions Policy Institute is grateful for input from many people in support of this paper, including:

Niki Cleal	Leandro Carrera	Nick Hurman
Francis McGee	Daniela Silcock	Jackie Wells

Editing decisions remained with the authors who take responsibility for any remaining errors or omissions.

The Pensions Policy Institute is an educational charity promoting the study of retirement income provision through research, analysis, discussion and publication. The PPI takes an independent view across the entire pensions system.

The PPI is funded by donations, grants and benefits-in-kind from a range of organisations, as well as being commissioned for research projects. To learn more about the PPI, see: [www.pensionspolicyinstitute.org.uk](http://www.pensionspolicyinstitute.org.uk)

© Pensions Policy Institute, 2011

Contact:  
Niki Cleal, Director  
Telephone: 020 7848 3744  
Email: [info@pensionspolicyinstitute.org.uk](mailto:info@pensionspolicyinstitute.org.uk)

Pensions Policy Institute  
King's College  
26 Drury Lane  
3<sup>rd</sup> Floor, Room 311  
London WC2B 5RL

The PPI is grateful for the continuing support of its Platinum members:

AEGON  
Prudential  
The Pensions Regulator  
Threadneedle Investments

A full list of supporting members is on the PPI's website.



## References

AEGON (2011) *Towards more effective savings incentives: AEGON's conclusions from independent research*

Association of British Insurers (ABI) Deloitte (2006) *Employer pension contributions and pension reform: ABI research paper 2*

Deloitte (2006) *Pension reform in the workplace*

Johnson, Yeandle and Boulding (2010) *Making automatic enrolment work – a review for the Department for Work and Pensions*

National Association of Pension Funds (NAPF) (2006) *More savers, more saving?: How employer decisions will determine the long-term success of pension reform. Research report 7*

NAPF (2010) *Fit for the future: NAPF's vision for pensions*

Pensions Commission (2005) *A New Pension Settlement for the Twenty-First Century*

Pensions Policy Institute (PPI) (2005) *What will pensions cost in future?*

PPI (2007) *Will personal accounts increase pension saving?*

PPI (2008) *Would allowing early access to pension savings increase retirement incomes?*

PPI (2009) *Retirement income and assets: Do pensioners have sufficient incomes to meet their needs?*

PPI (2010) *A Foundation Pension: A PPI evaluation of NAPF proposals*

Wells J, Leston J and Montgomery L. (2011) *Effective incentives for savings – consumer research findings*

Crown copyright material is reproduced with the permission of the Controller of HMSO and the Queen's Printer for Scotland.

Published by  
PENSIONS POLICY INSTITUTE

**PPI**

[www.pensionspolicyinstitute.org.uk](http://www.pensionspolicyinstitute.org.uk)  
ISBN 978-1-906284-16-9