Pensions Policy Institute

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The implications of the Coalition Government's public service pension reforms

The implications of the Coalition Government's public service pension reforms is a research project carried out by the Pensions Policy Institute and funded by the Nuffield Foundation.

The Pensions Policy Institute (PPI) is an independent, apolitical, educational research charity with a charitable objective to inform the policy debate on pensions and other provision for retirement.

The objective of the report is to aid understanding about the potential impact of the Coalition Government's proposed reforms to the public service schemes in order to inform the policy debate. The PPI is not lobbying for or against the implementation of the Government's proposals.

The analysis has been funded by a grant from the Nuffield Foundation, an endowed charitable trust that aims to improve social well-being in the widest sense. It funds research and innovation in education and social policy and also works to build capacity in education, science and social science research. The Nuffield Foundation has funded this project, but the views expressed are those of the authors and not necessarily those of the Foundation. More information is available at www.nuffieldfoundation.org.

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Published by the Pensions Policy Institute
© May 2013
ISBN 978-1-906284-25-1
www.pensionspolicyinstitute.org.uk

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Executive Summary

Introduction
The Coalition Government has proposed a number of reforms to the public service pension schemes following the broad thrust of the recommendations made by Lord Hutton in his fundamental review of the public service pension schemes. In September 2012 the Government introduced draft legislation to Parliament in the form of the Public Service Pensions Bill which will provide the legislative framework to enable the Government to implement Lord Hutton's recommendations. The Public Service Pensions Act received royal assent on 25 April 2013. Some aspects of the reforms, such as the final agreements for tiered contributions, are still subject to negotiations.

The Coalition Government's proposed reforms include linking the pension benefits for public service workers to average salary rather than to final salary, linking the Normal Pension Age (NPA) to the State Pension Age (SPA) for the four largest schemes: NHS, Teachers, Local Government and the Civil Service and increasing the average contributions to be made by scheme members. The Government's reforms also cover the uniformed services (Police, Fire Service and Armed Forces) although the proposals are slightly different for these schemes, where an NPA of 60 is proposed.

The proposed reforms apply to all members except members within ten years of their NPA on 1 April 2012, who will have their pension calculated according to the rules in place prior to the introduction of the proposed reforms.

Purpose of this report
This report sets out the PPI's independent assessment of the potential impact of the Coalition Government's proposed reforms to the public service pension schemes, based on the Government's Proposed Final Agreements. The report considers the impact on the value of the pension benefit being offered to public service workers and the impact on long-term government expenditure on unfunded public service pension schemes. The analysis covers the four largest public service schemes: the NHS, Teachers, Local Government and Civil Service pension schemes which account for around 85% of public service pension scheme members. The Government has also proposed reforms to the schemes for the uniformed services (Police, Fire Service and Armed Forces).

Previous reforms to the public service pension schemes
The Coalition Government's proposed reforms are the latest in a series of reforms to public service pension schemes. The Labour Government implemented reforms to the four largest public service pension schemes in 2007 and 2008. Under Labour's reforms all of the reformed schemes retained their final salary benefit structure except for the Civil Service scheme which moved to a new Career Average Revalued Earnings scheme (CARE) for new entrants to the Civil Service from 30 July 2007. In addition, the Normal Pension Age for the NHS, Teachers and Civil Service schemes was increased from 60 to 65 for new entrants, and the rates of accrual in the final salary schemes were

amended. The Local Government Pension Scheme (LGPS) already had an NPA of 65 although the rule of 85 which enabled retirement before age 65 in some circumstances was abolished in these reforms.

Higher rates of member contributions were introduced for all four of the main schemes for all scheme members (both existing members and new entrants) and for some schemes (e.g. the NHS and LGPS) the introduction of tiered member contributions saw higher earners pay higher rates of contribution than lower earners for the first time.

In June 2010, the Coalition Government changed the inflation measure used to uprate public service pension benefits. From April 2011, public service pensions in payment and pensions accrued are uprated in line with changes in the Consumer Prices Index (CPI), instead of the Retail Prices Index (RPI) as had been the previous policy. The CPI typically rises more slowly than the RPI because different formulae are used to calculate each index and because the CPI excludes housing costs.

Methodology

In order to provide comparisons of the value of the benefits offered by alternative Defined Benefit pension schemes, such as a final salary scheme and a career average scheme, the Pensions Policy Institute calculates the Effective Employee Benefit Rate (EEBR) of different schemes for scheme members with different characteristics.

The Effective Employee Benefit Rate provided by a particular pension scheme is calculated by translating the value of the pension benefit offered in the scheme into an equivalent percentage of salary that the scheme member would need to be given to compensate for the loss of the pension scheme. For example, an Effective Employee Benefit Rate of 15% for a member of a public service pension scheme means that the scheme member would have to be given a 15% increase in their salary by their employer to compensate for the loss of the pension scheme.

It is important to frame the analysis in such a way that the estimated impact of the reforms on scheme members is comparable to the way in which scheme members and their employers currently think about how much they pay for their schemes. The most appropriate way of doing this is to make the EEBR calculation consistent with the current framework for setting contributions.[1]

The member contributions are taken into account in the calculation of the EEBR. So if a scheme has a benefit structure that would be worth 20% of the

[1] The EEBR calculation requires making an assumption on the discount rate employed to discount future pension payments back to a present value. Following a consultation in 2011, the discount rate used by HM Treasury for calculating contribution rates to unfunded public service schemes is linked to GDP growth, approximated by CPI growth plus 3%. This discount rate has therefore been used in the EEBR calculations. For more discussion about the appropriate discount rate for this analysis see Annex 8.

member's salary, but the member is contributing 5% themselves in member contributions, then the Effective Employee Benefit Rate would be 15%.

Assessing the Impact of the Coalition's proposed reforms on scheme members

The Coalition Government's proposed reforms to the public service pensions include:

- Increased member contributions which will increase by an average 3.2% for each scheme (except the Local Government Pension Scheme);
- The switch to a Career Average Revalued Earnings (CARE) scheme;
- The linking of the Normal Pension Age with the State Pension Age for the four largest schemes.

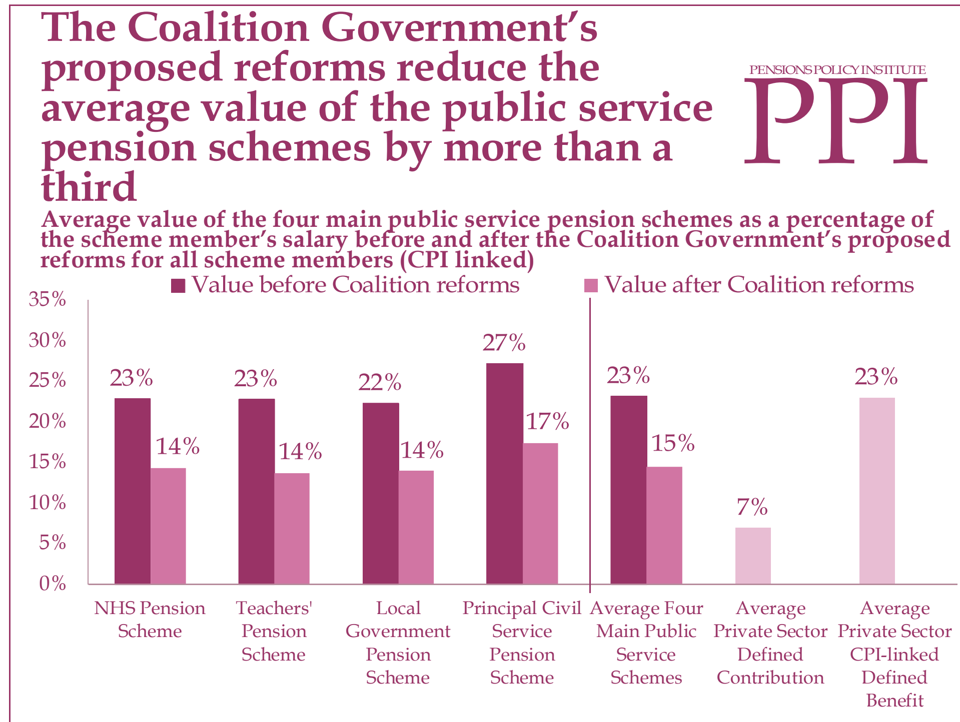
In order to assess the impact of the Coalition Government's reforms on the value of the pension benefit for public service scheme members it is necessary to have a baseline to compare the value of the schemes before the proposed reforms.

We have assumed in the baseline used in this report that from 1 April 2011 all public service pensions in payment and pensions accrued are uprated in line with changes in the Consumer Prices Index (CPI), instead of the Retail Prices Index (RPI) as had been the previous policy. In Annex 3 we have also calculated a counterfactual analysis of what the schemes would have been worth if the Government had continued to uprate public service pensions in line with the RPI.

Headline Findings

The PPI's analysis suggests that the Coalition Government's proposed reforms to the NHS, Teachers, Local Government and Civil Service pension schemes will **reduce the average value of the benefit offered <u>across all scheme members</u> by more than a third**, compared to the value of the schemes before the Coalition Government's proposed reforms. Across the four largest public service pension schemes the value of the schemes reduces, on average, from 23% of a scheme member's salary before the reforms to 15% of a scheme member's salary after the Coalition Government's proposed reforms (Chart A).

Chart A[2]



The impact across all members of the **NHS scheme** is to reduce, on average, the value of the pension benefit from 23% of a member's salary before the proposed reforms, to 14% of a member's salary after the Coalition's proposed reforms, a reduction of more than a third.

The impact across all members of the **Teachers' scheme** is to reduce, on average, the value of the pension benefit from 23% of a member's salary before the proposed reforms, to 14% of a member's salary after the Coalition's proposed reforms, a reduction of more than a third.

For members of the **LGPS scheme** the impact of the Coalition's proposed reforms is to reduce, on average, the value of the pension benefit from 22% of a member's salary before the proposed reforms, to 14% of a member's salary after the Coalition's proposed reforms, a reduction of more than a third.

The impact across all members of the **Civil Service scheme** is to reduce, on average, the value of the pension benefit from 27% of a member's salary before the proposed reforms, to 17% of a member's salary after the Coalition's proposed reforms, a reduction of more than a third.

Nevertheless, even after the Coalition's proposed reforms the benefit offered by all four of the largest public service pension schemes remains more valuable, on average, than the pension benefit offered by Defined Contribution

[2] PPI EEBR analysis using scheme designs as set out in the proposed final agreements for each scheme. Figures are weighted averages based on the relative membership of each scheme. Figures rounded to the nearest 1%.

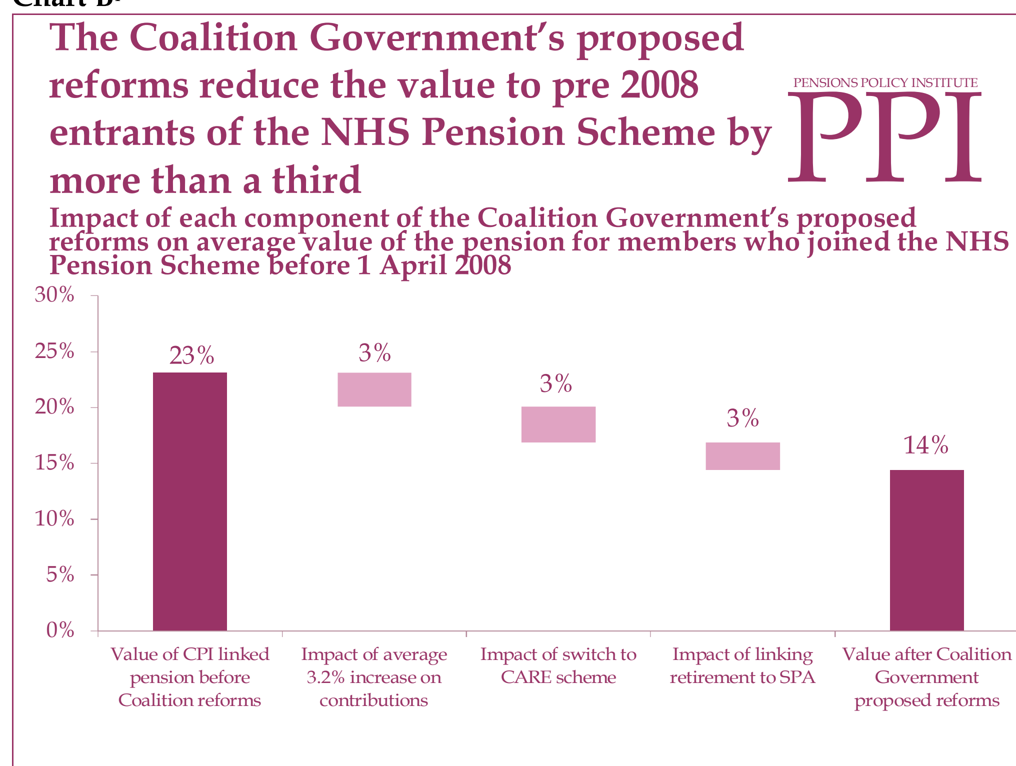
(DC) schemes that are now most commonly offered to employees in the private sector, into which employers typically contribute around 7% of a DC scheme member's salary.[3]

There are still some Defined Benefit schemes in the private sector, although less than 10% of private sector employees are active members of a Defined Benefit Scheme. A typical Defined Benefit scheme in the private sector would have an average pension benefit value to public sector workers of 23% of a member's salary, assuming that the scheme benefits are linked to the Consumer Prices Index (CPI). Some private sector schemes still have benefits linked to the Retail Prices Index (RPI), and for a typical private sector Defined Benefit scheme linked to RPI the average value of the pension benefit to public sector workers would be 27% of a member's salary.

The impact of the components of the Coalition's proposed reforms on the value of the NHS scheme

To illustrate how the different components of the Coalition's proposed reforms would impact on members of the NHS Pension Scheme who have joined the scheme before 1 April 2008 Chart B shows how each component of the Coalition's reforms contributes to the average reduction in the value of the scheme. The equivalent analysis for the Teachers, Local Government and Civil Service schemes are published in Annexes 4, 5 and 6.

Chart B[4]



[3] See Annex 2 for details on the calculation of the private sector DC comparator.

[4] PPI EEBR analysis using scheme designs as set out in the proposed final agreement for the NHS Pension Scheme. Figures rounded to the nearest 1%.

The increase in average member tiered contributions, under which higher earners pay higher contributions than lower earners, reduces the average value of the pension benefit offered by the scheme by 3% of salary.

The switch from a final salary scheme with a 1/80th accrual rate with a 3/80th lump sum to the new NHS Career Average Revalued Earnings scheme reduces the average value of the pension benefit being offered by the scheme by 3% of salary.

Linking the Normal Pension Age to the State Pension Age instead of having an NPA of 60 reduces the average value of the pension benefit by a further 3% of salary.

The above figures show the **average impact of the reforms across all members of each of the schemes. The individual impact of the reforms on the value of the pension benefit available to a particular scheme member will be influenced by a wide range of factors** including: the member's age and salary when the reforms are introduced, their salary progression and whether they leave public service early or stay in the scheme until they retire.

The impact of the reforms for an individual scheme member could therefore be substantially different to the average impacts presented here. To illustrate this point the report analyses the potential impact of the proposed reforms on members who joined the NHS Pension Scheme before 1 April 2008 for individuals with fast and slow salary progression (high-flyers and low-flyers), with high and low earnings, and those who leave after a short period of time (early leavers) or who stay until Normal Pension Age (long-stayers). This analysis suggests that:

- The Coalition's proposed reforms will remove the different outcomes for high-flyers and low-flyers which exist in final salary schemes. If two median earning 40-year-old men had joined the NHS scheme before 1 April 2008 under the pre-reform schemes, the high-flyer would have had a pension benefit of 29% of salary, compared to 11% of salary for the low-flyer. Under the Coalition Government's proposed reforms high-flyers and low-flyers have a pension benefit worth the same percentage of salary, with the average value of the pension offered being worth 15% of salary for both members.

- After the Coalition's proposed reforms the value of the pension received by lower earners will be higher as a percentage of their salary than that of higher earners, as higher earners must pay higher contributions for the pension they receive, compared to lower earners. For example, a 50-year-old member of the NHS Pension Scheme who joined the scheme before 1 April 2008 earning up to £15,000 will have a pension benefit worth 21% of salary. By contrast, a 50-year-old member of the NHS Pension Scheme who joined the scheme before 1 April 2008 with earnings above £110,274 will have a pension benefit worth 11% of salary. This does not mean that a higher earner gets a lower pension in absolute terms than a lower earner,

but that a lower earner accrues a pension per year that represents a higher percentage of their salary, compared to a high earner.

- Under the Coalition's proposed reforms there is a smaller difference between the value of the pension earned for each year of service by a long-stayer and an early leaver than before the Coalition's proposed reforms for members of the NHS and Teachers' Pension Schemes. For example, before the Coalition Government's proposed reforms, a median earning 40-year-old member of the NHS Pension Scheme whose earnings increase in line with average earnings growth, who joined before 1 April 2008 and stays in the scheme until they retire at their NPA - a long-stayer - would have a value of the pension benefit earned in a year worth 26% of a member's salary. This compares to a value of the pension benefit earned in a year of 14% of a member's salary for an early leaver who has the same earnings and earnings growth but leaves the scheme after 5 years of membership.

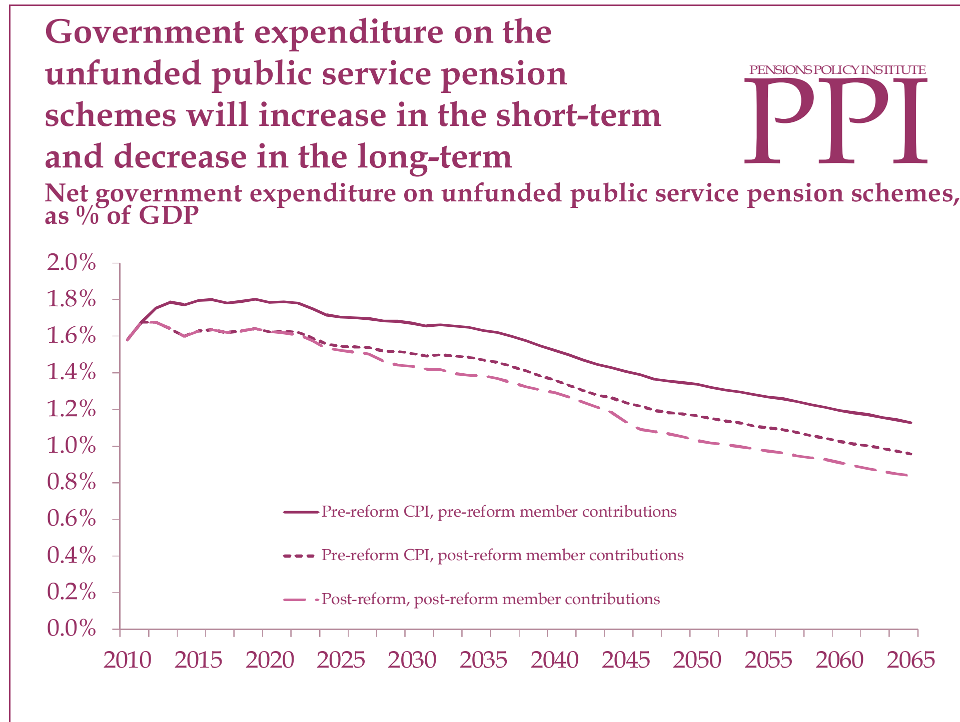
- By comparison, after the Coalition Government's proposed reforms, the value of the pension earned in a year for a long-stayer in the NHS Scheme would be 14% of a member's salary, compared to 9% of a member's salary for an early leaver. After the Coalition's proposed reforms there is a smaller difference between the value of the pension earned for each year of service by a long-stayer and an early leaver in the NHS scheme. The impact on members of the Teachers' Pension Scheme would be similar.

- For members of the Civil Service Pension Scheme and the Local Government Pension Scheme, under the Coalition's proposed reforms the amount of pension earned in a year would be the same percentage of salary for members with similar characteristics who leave the scheme early and for members who stay in active service until they retire. In both the LGPS and the Civil Service schemes after the Coalition's reforms the value of the pension earned in a year is not affected by whether the pension was earned at the beginning of a member's career or over their whole career.

The impact of the proposed reforms on the affordability and sustainability of public service pension schemes

The Coalition Government's proposed reforms are expected to have an impact on how much the Government spends on public service pension schemes. Government expenditure on unfunded public service pension schemes represents how much the Government needs to pay out each year to meet its unfunded public service pension obligations. Gross government expenditure on public service pension schemes only includes government expenditure on paying unfunded public service pensions in payment. Net government expenditure deducts members' contributions. Net government expenditure could reduce in the long-term as a consequence of the Government's proposed reforms (Chart C).

Chart C[5]



If the unfunded public service pension schemes had remained as after the 2008 reforms, but with pension benefits indexed by the CPI, net government expenditure on the unfunded public service schemes would have peaked at around 1.8% of GDP in 2016, before falling to around 1.1% by 2065.

If the unfunded public service pension schemes had remained as after the 2008 reforms, but with pension benefits indexed by the CPI and with higher post-reform levels of member contributions, net government expenditure would have fallen to around 1% of GDP by 2065.

The impact of the recent Coalition Government reforms (including the changes in the benefit structures and the increase in employee contributions) is to reduce net government expenditure on the unfunded public service pension schemes further. After implementation of the reforms net government expenditure is estimated to fall to around 0.8% of GDP by 2065 – a reduction of around a quarter compared to the pre-reform system.

One area of uncertainty surrounding the impact of the reforms is on the opt-out rate of public service pension schemes. Future net government expenditure on public service pensions will depend on the opt-out rate assumed. Around 15% of public service employees opt-out of public service pension schemes, although the opt-out rate varies on a scheme by scheme basis. A 15% opt-out rate has therefore been used as a baseline for this analysis.

[5] PPI Aggregate Model. Estimates include the NHS, Teachers, Civil Service, uniformed services pension schemes and other unfunded public service pension schemes.

A higher opt-out rate would increase net government expenditure on public service pension schemes in the short-term as the Government must pay existing pensions while collecting a lower amount of contributions. However, in the long-term, a higher opt-out rate reduces net government expenditure on public service pensions as fewer pensions must be paid. A lower opt-out rate would have the exact opposite effect.

If the opt-out rate increased to 25%, net government expenditure could decrease to around 0.7% of GDP by 2065. Conversely, if the opt-out rate decreased to 5%, net government expenditure could increase to around 0.9% of GDP by 2065.

The differences in pay in the public and private sector

Comparisons between public and private sector pay that use unadjusted averages of pay in both sectors are misleading. There are significant differences in experience, qualifications, gender and regional location between the workforce in both sectors that will lead to differences in pay between the public sector and private sector employees. Membership of a pension scheme is much higher among low paid workers in the public sector than in the private sector.

Introduction

This report sets out the PPI's independent assessment of the potential impact of the Coalition Government's proposed reforms to the public service pension schemes, based on the Government's Proposed Final Agreements.[6] The report considers the impact on the value of the pension benefit being offered to public service workers and the impact on long-term Government expenditure on unfunded public service pension schemes. The analysis covers the four largest public service schemes: the NHS, Teachers, Local Government and Civil Service schemes which account for around 85% of public service pension scheme members. The Government has also proposed reforms to the schemes for the uniformed services (Police, Fire Service and Armed Forces).

While this report focuses primarily on the impact of the latest set of proposals for reform of the public service pensions put forward by the Coalition Government, it is important to set these reforms in the context of the series of changes which have affected public service pensions in recent years.

The Labour Government's reforms

The Labour Government implemented reforms to the four main public service pension schemes in 2007 and 2008. All of the reformed schemes retained their final salary benefit structure except for the Civil Service scheme which moved to a new Career Average Revalued Earnings scheme for new entrants to the Civil Service from 30 July 2007.

As part of the 2007/8 reforms the Normal Pension Age (NPA) for the Civil Service, NHS and Teachers' schemes was increased from 60 to 65 – but only for new entrants; existing members of these schemes retained an NPA of 60. The Local Government Pension Scheme (LGPS) already had an NPA of 65, although the "rule of 85,"in which a member of the LGPS could retire with an unreduced pension before age 65 if the sum of their age and length of service exceeded 85, was abolished in these reforms.

For new entrants into the NHS and Teachers' schemes new accrual rates were introduced with the schemes moving from a system in which members accrued a pension of $1/80^{th}$ of their final salary for each year of service and a lump sum of $3/80^{ths}$ of their final salary, to an accrual rate of $1/60^{th}$ of final salary for each year of service with a lump sum only by commutation. For the LGPS this new accrual rate applied to all existing members as well as to new entrants from 1 April 2008.

In addition, higher rates of member contributions were introduced for all four of the main schemes for all scheme members (both existing members and new entrants) and for some schemes (e.g. the NHS and LGPS) the introduction of

[6] Department of Health (2012); Department for Education (2012); LGPS (2012); Civil Service Pension Scheme (2012)

tiered member contributions saw higher earners pay higher rates of contribution than low earners for the first time.

Coalition Government changes to public service pensions

In June 2010, the Coalition Government changed the inflation measure used to uprate public service pension benefits. From April 2011, public service pensions in payment and pensions accrued are uprated in line with changes in the Consumer Prices Index (CPI), instead of the Retail Prices Index (RPI) as had been the previous policy. The CPI typically rises more slowly than the RPI because different formulae are used to calculate each index and because the CPI excludes housing costs.

Some of the reforms which have already been introduced by successive Governments, such as higher rates of member contributions and the switch from RPI indexation to CPI indexation will have affected all members of the public service schemes – both existing members and new entrants. Other reforms, such as the reforms to the Normal Pension Ages, affected only new entrants to the schemes.[7]

Independent Public Service Pensions Commission

In 2010 the Coalition Government set up an Independent Public Service Pension Commission (IPSPC), chaired by Lord Hutton, to conduct a fundamental review of public service pension provision. The Commission reported in March 2011. The key recommendations of the Commission were that:

- The Defined Benefit (DB) structure of public service pensions should be maintained, but the pension benefit should be linked to Career Average Revalued Earnings (CARE), rather than to the scheme member's final salary.

- A single benefit design should apply across the whole income range. The differing characteristics of higher and lower earners should be addressed through tiered member contribution rates.

- The Normal Pension Age (NPA) in public service schemes should be aligned with the State Pension Age (SPA), with the exception of the schemes for the uniformed forces (Police and Fire Service and Armed Forces) where an NPA of 60 was recommended.

- The reforms should apply to all members from the moment the new scheme design is introduced.

The Government accepted the broad thrust of the Commission's recommendations. In September 2012 the Government introduced a Public Service Pensions Bill, which would enable the Government to implement the

[7] Annex 3 provides more detail on the impact of the reforms of successive Governments to the schemes

main elements of Lord Hutton's reforms – including ending the link to final salary and increasing schemes' Normal Pension Ages. The Public Service Pensions Act received royal assent on 25 April 2013.

The Government has also undertaken detailed negotiations with the public service unions to determine the precise details of each public service schemes, including the rate of accrual, the indexation arrangement and the rate of member contributions. The Government set out its final offer in the Proposed Final Agreements. The Tables in Annex 1 summarise the proposed structure and parameters for the four largest public service schemes: NHS, Teachers, Local Government and Civil Service and how these compare to the main sections of the previous schemes.

The proposed reforms apply to all members; however, members within ten years of their Normal Pension Age on 1 April 2012 will have their pension calculated according to the rules in place prior to the introduction of the proposed reforms.

This report presents analysis of the potential impact of the Coalition Government's proposed reforms to the public service pensions on the value of the pension benefit being offered to members of the four largest public service schemes: the NHS, Teachers', Local Government and Civil Service Pension Schemes.

The analysis considers the potential impact of three main elements of the Coalition's proposed reforms to the public service pensions:

- Increased member contributions which will increase by an average 3.2% for each scheme (except the Local Government Pension Scheme);
- The switch to a Career Average Revalued Earnings scheme;
- The linking of the Normal Pension Age with the State Pension Age for the four largest schemes.

This report also analyses the impact of the reforms on the affordability to Government of the unfunded public service pension schemes as well as the LGPS. The analysis considers the impact under two scenarios:

- The schemes as they were in April 2011, with CPI indexation for the payment of pension benefits.
- The schemes after the implementation of the Government proposed reforms as set out in the Proposed Final Agreements, with pensions linked to career average salary and the Normal Pension Age linked to the State Pension Age.

The Tables in Annex 1 summarise the proposed structure and parameters for the four largest public service schemes under the Coalition Government's reforms as set out in the Government's Proposed Final Agreements.

Chapter one describes the Effective Employee Benefit Rate (EEBR), which is the measure used in subsequent chapters to measure the value of the pension benefit for a scheme member. The chapter also describes the three scenarios used to analyse the impact of the proposed reforms on the value of the pension benefit offered for a scheme member.

Chapter two analyses the impact of the proposed reforms on the average value of the pension benefit offered **across all members** in each of the four largest public service pension schemes.

Chapter three analyses the impact of the different components of the Coalition Government's proposed reforms. The analysis considers the impact on members of the NHS pension scheme who joined the scheme before the 2007/8 reforms and on members who joined after the introduction of the 2007/8 reforms.

Chapter four considers the implications of the Coalition Government's reforms to the four largest public service pension schemes for scheme members with different characteristics, such as different salary progression, earnings levels and years of membership in the scheme.

Chapter five analyses the impact of the reforms on the affordability and sustainability of the four largest public service schemes by providing projections of government expenditure on these schemes.

Chapter six analyses the differences in pay and pension provision in the public and the private sector and the implications for making comparisons between the two sectors.

Chapter one: measuring the value of the pension benefit for a scheme member

To assess the implications of the Coalition Government's proposed reforms to the four largest public service pension schemes for members of public service pension schemes, it is necessary to have a way of comparing the value of Defined Benefit pension schemes with different benefit structures and with different scheme parameters. For example, we need to be able to compare the value of a final salary scheme with benefits indexed by the Consumer Prices index (CPI) with a Career Average Revalued Earnings (CARE) scheme with benefits linked to the CPI or other index (eg CPI +1.5%).

In order to provide comparisons of the value of the benefits offered by alternative Defined Benefit pension schemes, the Pensions Policy Institute calculates the Effective Employee Benefit Rate (EEBR) of different schemes for scheme members with different characteristics. The Effective Employee Benefit Rate provided by a particular pension scheme is calculated by translating the value of the pension benefit offered into an equivalent percentage of salary that the scheme member would need to be given to compensate for the loss of the pension scheme. For example, an Effective Employee Benefit Rate of 15% for a member of a public service pension scheme means that the scheme member would have to be given a 15% increase in their salary by their employer to compensate for the loss of the pension scheme.[8]

It is important to frame the analysis in such a way that the estimated impact of the reforms on scheme members is comparable to the way in which scheme members and their employers currently think about how much they pay for their schemes. The most appropriate way of doing this is to make the EEBR calculation consistent with the current framework for setting contributions.[9]

The level of members' contributions is taken into account in the calculation of the EEBR. So if a scheme has a benefit structure that would be worth 20% of the member's salary, but the member is contributing 5% themselves in member contributions, then the Effective Employee Benefit Rate would be 15%. The calculations of the benefits offered by the main public service pension schemes after the Coalition's reforms contained in this note therefore factor in the impact of the new tiered member contributions which vary by salary level.

Translating the value of the pension scheme to the scheme member into an equivalent percentage of their salary enables comparisons to be made of the relative value of Defined Benefit schemes with different scheme structures and with different parameters, such as different accrual rates and indexation

[8] More details about the calculation of the EEBR can be found in Annex 2.
[9] The EEBR calculation requires making an assumption on the discount rate employed to discount future pension payments back to a present value. Following a consultation in 2011, the discount rate used by HM Treasury for calculating contribution rates to unfunded public service schemes is linked to GDP growth, approximated by CPI growth plus 3%. This discount rate has therefore been used in the EEBR calculations. For more discussion about the appropriate discount rate for this analysis see Annex 8.

arrangements. It also enables comparisons to be made between the value of Defined Benefit schemes and the value of Defined Contribution schemes, which are now most commonly available in the UK private sector.

The baseline used in this analysis

In order to assess the impact of the Coalition Government's reforms on the value of the pension benefit for members of the public service pension schemes it is necessary to have a baseline to compare the value of the schemes to scheme members before and after the introduction of the Coalition's proposed reforms.

The impact of the previous Labour Government's reforms of 2007/8

The Labour Government implemented reforms to the four largest public service pension schemes in 2007 and 2008. Under Labour's reforms:

- All of the reformed schemes retained their final salary benefit structure except for the Civil Service scheme which moved to a new Career Average scheme for new entrants to the Civil Service from 30 July 2007.

- The Normal Pension Age (NPA) for the Civil Service, NHS and Teachers' schemes was increased from 60 to 65 – but only for new entrants; existing members of these schemes retained an NPA of 60. The Local Government Pension Scheme (LGPS) already had an NPA of 65, although the "rule of 85,"in which a member of the LGPS could retire with an unreduced pension before age 65 if the sum of their age and length of service exceeded 85, was abolished in these reforms.

- For new entrants into the NHS and Teachers' schemes new accrual rates were introduced so that new entrants accrued a final salary pension of 1/60th of their final salary for each year of service with a lump sum by commutation only, instead of a pension of 1/80th of their final salary for each year of service and a lump sum of 3/80^{ths} of their final salary. For the LGPS this reform applied to all existing members as well as new entrants.

- Higher rates of member contributions were introduced for all four of the largest schemes for all scheme members (both existing members and new entrants) and for some schemes (e.g. the NHS and LGPS) the introduction of tiered member contributions saw higher earners pay higher rates of contribution than lower earners for the first time.

In June 2010, the Coalition Government changed the inflation measure used to uprate public service pension benefits. From April 2011, public service pensions in payment and pensions accrued are uprated in line with changes in the Consumer Prices Index (CPI), instead of the Retail Prices Index (RPI) as had been the previous policy. The CPI typically rises more slowly than the RPI because different formulae are used to calculate each index and because the CPI excludes housing costs.

In the baseline we have assumed that all of Labour's 2007/8 reforms have been implemented and that public service pensions in payment and pensions accrued are uprated in line with changes in the Consumer Prices Index (CPI), instead of the Retail Prices Index (RPI). This baseline is used because this reflects the position for current members of the public service pension schemes. In Annex 3 we have also calculated a counterfactual analysis of what the schemes would have been worth if the Government had continued to uprate public service pensions in line with the RPI.

The different sections of the public service pension schemes
As a result of some of the main elements of the 2007/8 reforms to the NHS, Teachers and Civil Service schemes applying only to new entrants, some public service employees who joined the public service before the introduction of the 2007/8 reforms are currently members of the pre 2007/8 sections of the public service schemes. Other public service employees who have joined the public service since the introduction of the 2007/8 reforms will be in the post 2007/8 sections of the schemes.

The different scheme rules that apply to members who joined each of the main sections of the NHS, Teachers, Local Government and Civil Service schemes before and after the 2007/8 reforms are summarised in Annex 1. As the 2007/8 reforms to the Local Government pension scheme applied to all members, all members of the LGPS are now in the post 1 April 2008 reformed scheme.

The value of the pension benefit for members who joined before and after the previous Labour Government's 2007/8 reforms
Differences in scheme rules between members who joined before and after the previous Labour Government's 2007/8 reforms give rise to different average Effective Employee Benefit Rates for each section. In order to illustrate how these differences arise, the NHS scheme has been considered as an example.

A member of the NHS scheme who joined the scheme before 1 April 2008 would currently:
- have a Normal Pension Age of 60,
- be in a final salary scheme with an accrual rate of 1/80ths of final salary and would receive a lump sum of 3/80ths of their final salary;
- be paying member contributions in 2011/12 of between 5% and 8.5% of their salary depending on their salary level;
- receive CPI indexation for revaluation and to index pensions in payment.

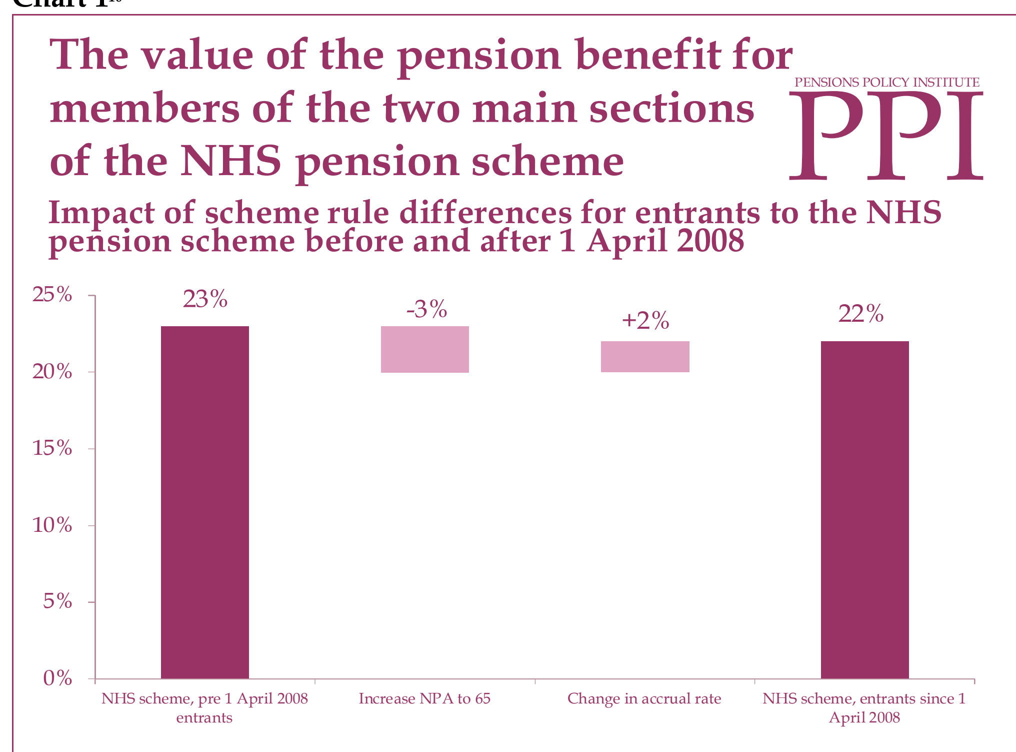
By contrast, a member of the NHS scheme who joined the scheme after 1 April 2008 would currently:
- have a Normal Pension Age of 65,
- be in a final salary scheme with an accrual rate of 1/60ths of final salary with a lump sum by commutation only;
- be paying member contributions in 2011/12 of between 5% and 8.5% of their salary depending on their salary level;
- receive CPI indexation for revaluation and to index pensions in payment.

The main differences for members who joined after 1 April 2008 are therefore:

- Normal Pension Age is 65, compared to a Normal Pension Age of 60 for those who joined before 1 April 2008.
- The accrual rate is 1/60th (with a lump sum only available through commutation), compared to an accrual rate of 1/80th plus 3/80th lump sum for those who joined before 1 April 2008.

Chart 1 shows for members who joined the NHS scheme before 1 April 2008, the value of the pension benefit is, on average, 23% of a member's salary.

Chart 1[10]



- The impact of increasing the Normal Pension Age from 60 for those joining before 1 April 2008 to 65 for those joining after 1 April 2008 is to **reduce** the value of the pension benefit, on average, by 3% of a member's salary.
- The impact of changing the accrual rate from 1/80ths plus a 3/80ths lump sum for those joining before 1 April 2008 to 1/60ths (with a lump sum only available through commutation) for those who joined after 1 April 2008 is to **increase** the value of the pension benefit, on average, by 2% of a member's salary.

The overall impact of the 2007/8 reforms on the NHS scheme is therefore to **reduce** the value of the pension benefit, on average, from 23% of a member's salary for members who joined before 1 April 2008 to 22% of a member's salary, on average, for members who joined after 1 April 2008.

[10] PPI EEBR analysis using scheme designs as set out in Annex 1. Methodology and assumptions for the EEBR are set out in Annex 2. Figures rounded to the nearest 1%.

Assessing the impact of the Coalition Government's proposed reforms
The analysis considers the potential impact of the Coalition Government's proposed reforms to the public service pensions on the value of the pension benefit for members of the four largest public service schemes before and after the introduction of the Coalition's proposed reforms.

The Coalition Government's proposed reforms to the public service pensions include:

- Increased member contributions which will increase by an average 3.2% for each scheme (except the Local Government Scheme);
- The switch to a Career Average Revalued Earnings scheme;
- The linking of the Normal Pension Age (NPA) with the State Pension Age (SPA) for the four largest schemes.

Modelling Normal Pension Age increasing in line with State Pension Age
A feature of the Coalition Government's proposed reforms to the four largest public service pension schemes is that the Normal Pension Age has been set to increase in line with future changes to the State Pension Age for men. The modelling in this project assumes increases in SPA approximating a combination of current legislation and announced Government policy.

Since April 2010 women's State Pension Age has been increasing in a series of steps to equalise with men's SPA, and will reach age 65 by November 2018 when SPA will be equal for men and women. According to current legislation, both men and women's SPA will then rise to 66 by 2020.

The NPA for each scheme under the Coalition's proposed reforms is therefore 65 until 2018 (which is consistent with the current SPA for men), increasing to 66 by 2020. Scheme NPAs are then assumed to increase in line with the Government's announced intention that SPA for both men and women will rise to 67 between 2026 and 2028. In the longer term, SPA and NPA are then modelled as increasing to 68 between 2044 and 2046 as stipulated in current legislation.

Taking account of the different starting points for scheme members who have joined the different sections of the four largest public service schemes
As scheme members will be in different sections of the existing public service pension schemes depending on when they joined the schemes, precisely how a scheme member is affected by the Coalition Government's proposed reforms will be affected by when they joined their scheme as this will affect the value of their current scheme.

We have therefore analysed the impact of the Coalition's reforms for three different scenarios:

1. The impact of the Coalition's reforms on the value of the pension benefit offered to a scheme member who joined the scheme before the introduction of the 2007/8 reforms. At this point in time, the majority of public service employees are likely to have joined the schemes before the 2007/8 reforms were introduced.

2. The impact of the Coalition's reforms on the value of the pension benefit offered to a scheme member who has joined the scheme since the introduction of the 2007/8 reforms. Fewer members will be in this situation, but members who have joined the schemes within the last four or five years are likely to be in this position.

3. The impact of the Coalition's reforms on the value of the pension benefit offered for all scheme members (both pre 2007/8 entrants and post 2007/8 entrants). This is an average of the figures for the impact on pre 2007/8 entrants and post 2007/8 entrants weighted by the size of the respective scheme memberships.

For example, for members of the NHS scheme we consider separately:

- The impact on those who joined the NHS scheme before 1 April 2008 of moving to the Coalition's proposed Career Average Revalued Earnings scheme with an accrual rate of $1/54^{th}$, with a Normal Pension Age equal to State Pension Age and with the proposed new member contribution rate of between 5% and 14.5% depending on their salary level.

- The impact on those who joined the NHS scheme after 1 April 2008 of moving to the Coalition's proposed Career Average Revalued Earnings scheme with an accrual rate of $1/54^{th}$, with a Normal Pension Age equal to State Pension Age and with the proposed new member contribution rate of between 5% and 14.5% depending on their salary level.

- The weighted average impact across all members of the NHS scheme of moving to the Coalition's proposed Career Average Revalued Earnings scheme with an accrual rate of $1/54^{th}$, with a Normal Pension Age equal to State Pension Age and with the proposed new member contribution rate of between 5% and 14.5% depending on their salary level.

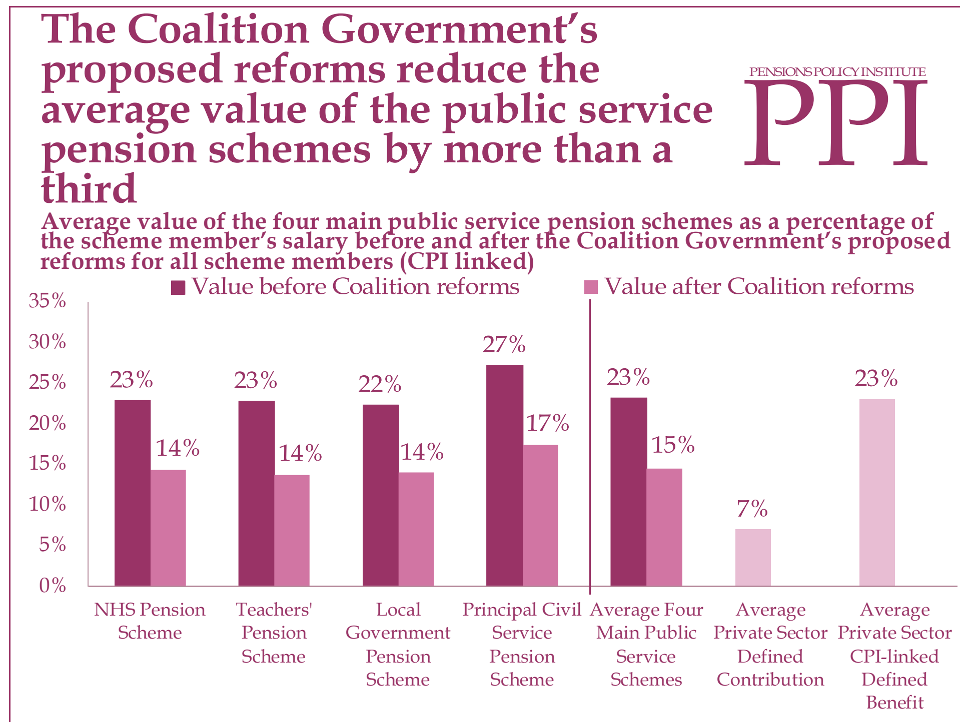
The next chapter outlines the main findings from the analysis. For the NHS, Teachers and Local Government schemes whether a scheme member joined the scheme before or after the implementation of the 2007/8 reforms makes only a relatively small difference to the results. However, for the Civil Service scheme the impact of the Coalition's reforms will be more significant for current members of the old final salary schemes than for more recent entrants to the Civil Service who have joined the Career Average Revalued Earnings scheme introduced in the Civil Service in 2007.

Chapter two: the impact of the Coalition Government's proposed reforms on the value of the four largest public service pension schemes

Headline Findings

The PPI's analysis suggests that the Coalition Government's proposed reforms to the NHS, Teachers, Local Government and Civil Service pension schemes will **reduce the average value of the benefit offered across all scheme members by more than a third**, compared to the value of the schemes before the Coalition Government's proposed reforms. Across the four largest public service pension schemes the average value of the schemes reduces, on average, from 23% of a scheme member's salary before the reforms to 15% of a scheme member's salary after the Coalition Government's proposed reforms (Chart 2).

Chart 2[11]



The impact across **all members** of the **NHS scheme** is to reduce, on average, the value of the pension benefit from 23% of a member's salary before the proposed reforms, to 14% of a member's salary after the Coalition's proposed reforms, a reduction of more than a third.

The impact across **all members** of the **Teachers' scheme** is to reduce, on average, the value of the pension benefit from 23% of a member's salary before

[11] PPI EEBR analysis using scheme designs as set out in the proposed final agreements for each scheme, summarised in Annex 1. Methodology and assumptions for the EEBR are set out in Annex 2. Figures rounded to the nearest 1%.

the proposed reforms, to 14% of a member's salary after the Coalition's proposed reforms, a reduction of more than a third

For members of the **LGPS scheme** the impact of the Coalition's proposed reforms is to reduce, on average, the value of the pension benefit from 22% of a member's salary before the proposed reforms, to 14% of a member's salary after the Coalition's proposed reforms, a reduction of more than a third.

The impact across **all members** of the **Civil Service scheme** is to reduce, on average, the value of the pension benefit from 27% of a member's salary before the proposed reforms, to 17% of a member's salary after the Coalition's proposed reforms, a reduction of more than a third.

Nevertheless, even after the Coalition's proposed reforms the benefit offered by all four of the largest public service pension schemes remains more valuable, on average, than the average pension benefit offered by Defined Contribution schemes that are now most commonly offered to employees in the private sector, into which employers typically contribute around 7% of a DC scheme member's salary.[12]

There are still some Defined Benefit schemes in the private sector, although less than 10% of private sector employees are active members of a Defined Benefit Scheme. A typical Defined Benefit scheme in the private sector has an average pension benefit value of 23% of a member's salary, assuming that the DB scheme benefits are linked to the Consumer Prices Index (CPI). Some private sector schemes still have benefits linked to the Retail Prices Index (RPI), and for a typical private sector Defined Benefit scheme linked to RPI the average value of the pension benefit to public sector workers is 27% of a member's salary.[13]

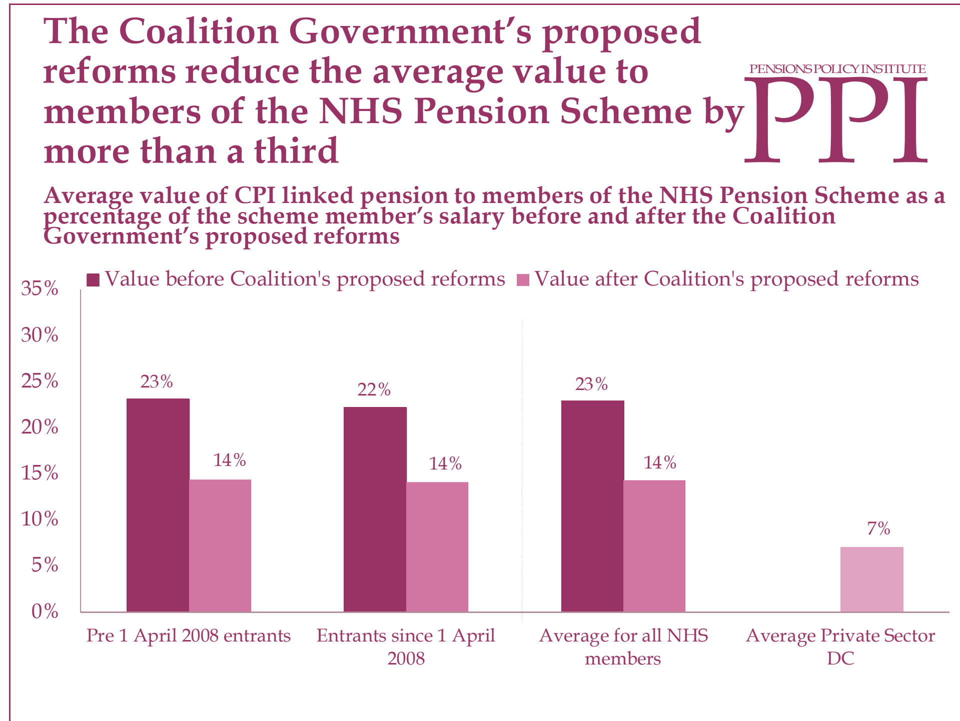
The following sections look at the impacts for members of the different schemes, depending on when members joined the schemes.

[12] See Annex 2 for more information on the average private sector Defined Contribution level

[13] See Annex 2 for more information on the average value of a typical private sector Defined Benefit scheme

NHS Pension Scheme

Chart 3[14]



- For members of the NHS scheme who joined the scheme <u>before</u> 1 April 2008 the impact of the Coalition's proposed reforms is to reduce, on average, the value of the pension benefit from 23% of a member's salary before the proposed reforms, to 14% of a member's salary after the Coalition's proposed reforms, a reduction of more than a third.

- For members of the NHS scheme who joined the scheme <u>since</u> 1 April 2008 the impact of the Coalition's proposed reforms is to reduce, on average, the value of the pension benefit from 22% of a member's salary before the proposed reforms, to 14% of a member's salary after the Coalition's proposed reforms, a reduction of more than a third.

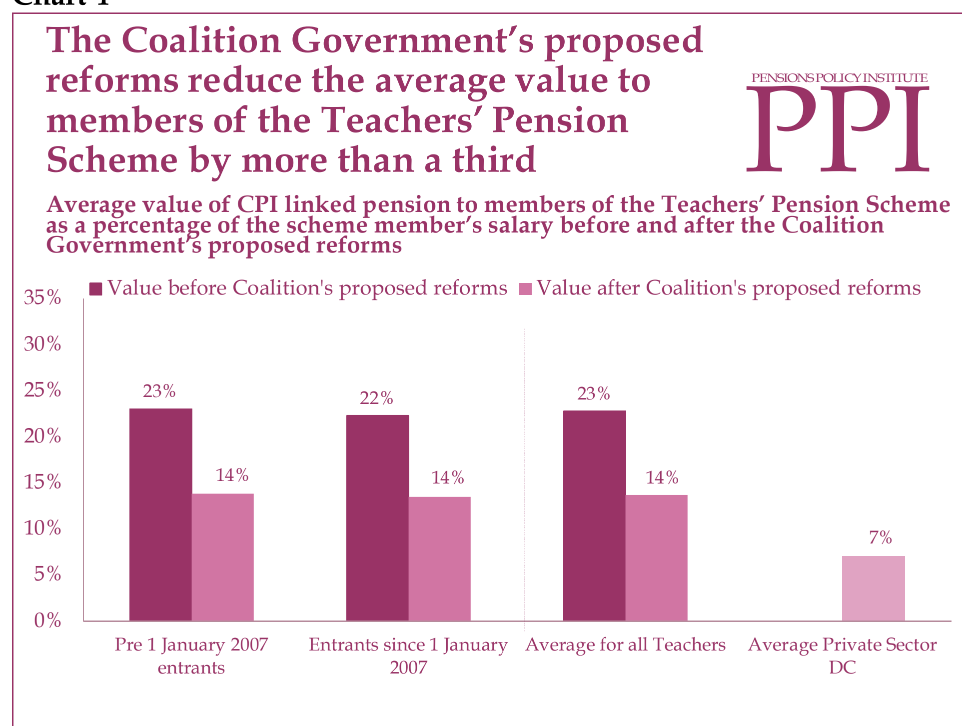
- The impact across <u>all members</u> of the NHS scheme is to reduce, on average, the value of the pension benefit from 23% of a member's salary before the proposed reforms, to 14% of a member's salary after the Coalition's proposed reforms, a reduction of more than a third.

- Nevertheless, even after the reforms the value of the NHS pension scheme remains more valuable than an average private sector Defined Contribution scheme into which employers typically contribute around 7% of a DC scheme member's salary.

[14] PPI EEBR analysis using scheme designs as set out in the proposed final agreement for the NHS Pension Scheme, summarised in Annex 1. Methodology and assumptions for the EEBR are set out in Annex 2. Figures rounded to the nearest 1%.

Teachers' Pension Scheme

Chart 4[15]



- For members of the Teachers' scheme who joined the scheme before 1 January 2007 the impact of the Coalition's proposed reforms is to reduce, on average, the value of the pension benefit from 23% of a member's salary before the proposed reforms, to 14% of a member's salary after the Coalition's proposed reforms, a reduction of more than a third.

- For members of the Teachers' scheme who joined the scheme since 1 January 2007 the impact of the Coalition's proposed reforms is to reduce, on average, the value of the pension benefit from 22% of a member's salary before the proposed reforms, to 14% of a member's salary after the Coalition's proposed reforms, a reduction of more than a third.

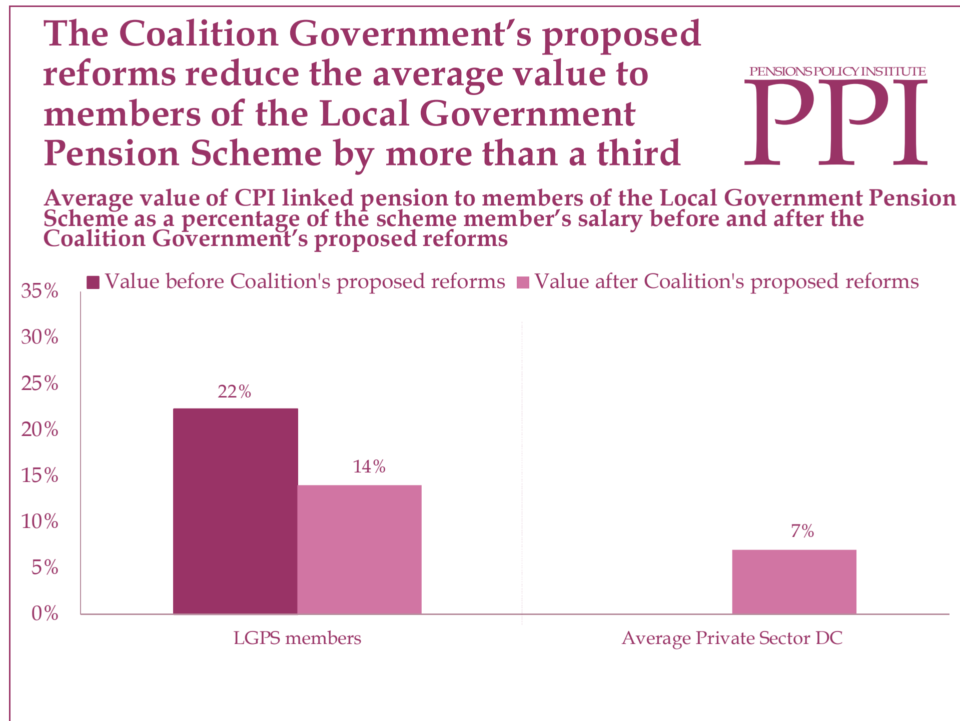
- The impact across all members of the Teachers' scheme is to reduce, on average, the value of the pension benefit from 23% of a member's salary before the proposed reforms, to 14% of a member's salary after the Coalition's proposed reforms, a reduction of more than a third.

- Nevertheless, even after the reforms the value of the Teachers' pension scheme remains more valuable than an average private sector Defined Contribution scheme into which employers typically contribute around 7% of a DC scheme member's salary.

[15] PPI EEBR analysis using scheme designs as set out in the proposed final agreement for the Teachers' Pension Scheme, summarised in Annex 1. Methodology and assumptions for the EEBR are set out in Annex 2. Figures rounded to the nearest 1%.

Local Government Pension Scheme

Chart 5[16]



- As the 2008 reforms to the Local Government pension scheme applied to all members, all members of the LGPS are now in the post 1 April 2008 reformed scheme.

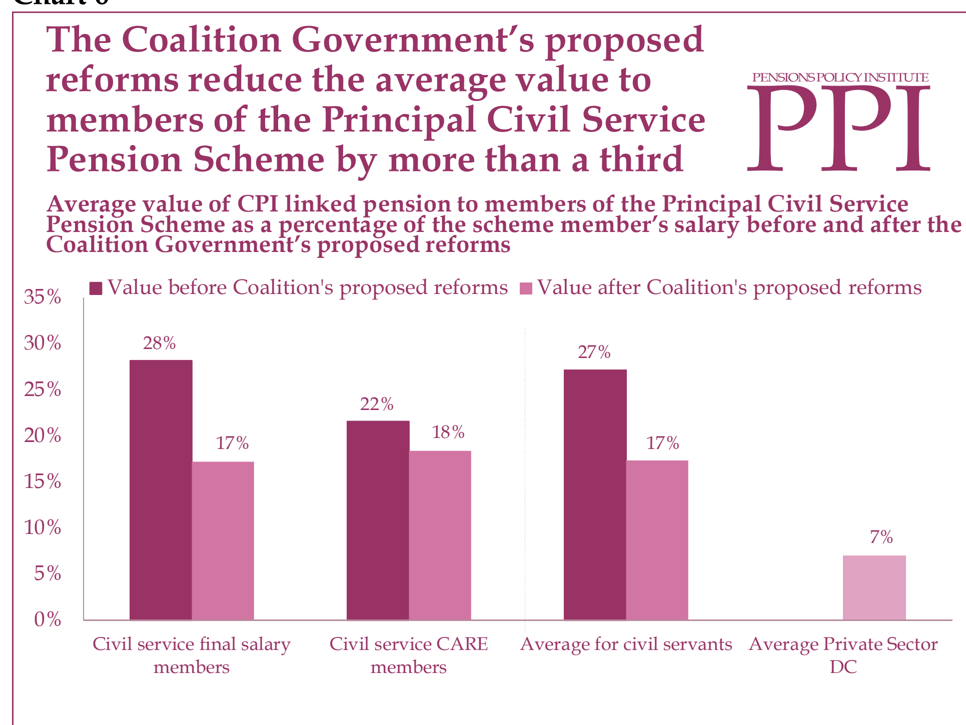
- For members of the LGPS scheme the impact of the Coalition's proposed reforms is to reduce, on average, the value of the pension benefit from 22% of a member's salary before the proposed reforms, to 14% of a member's salary after the Coalition's proposed reforms, a reduction of more than a third.

- Nevertheless, even after the reforms the value of the Local Government Pension Scheme remains more valuable than an average private sector Defined Contribution scheme into which employers typically contribute around 7% of a DC scheme member's salary.

[16] PPI EEBR analysis using scheme designs as set out in the LGPS 2014 proposals, summarised in Annex 1. Methodology and assumptions for the EEBR are set out in Annex 2. Figures rounded to the nearest 1%.

Civil Service Pension Scheme

Chart 6[17]



- For members of the Civil Service scheme who joined the scheme before 30 July 2007 and are still in the Civil Service Classic Final Salary scheme the impact of the Coalition's proposed reforms is to reduce, on average, the value of the pension benefit from 28% of a member's salary before the proposed reforms, to 17% of a member's salary after the Coalition's proposed reforms, a reduction of more than a third.

- For members of the Civil Service scheme who joined the scheme since 30 July 2007 and have joined the Civil Service Nuvos Career Average scheme the impact of the Coalition's proposed reforms is to reduce, on average, the value of the pension benefit from 22% of a member's salary before the proposed reforms, to 18% of a member's salary after the Coalition's proposed reforms, a reduction of less than a fifth.

- The impact across all members of the Civil Service scheme is to reduce, on average, the value of the pension benefit from 27% of a member's salary before the proposed reforms, to 17% of a member's salary after the Coalition's proposed reforms, a reduction of more than a third.

[17] PPI EEBR analysis using scheme designs as set out in the proposed final agreements for the Principal Civil Service Pension Scheme, summarised in Annex 1. Methodology and assumptions for the EEBR are set out in Annex 2. Figures rounded to the nearest 1%.

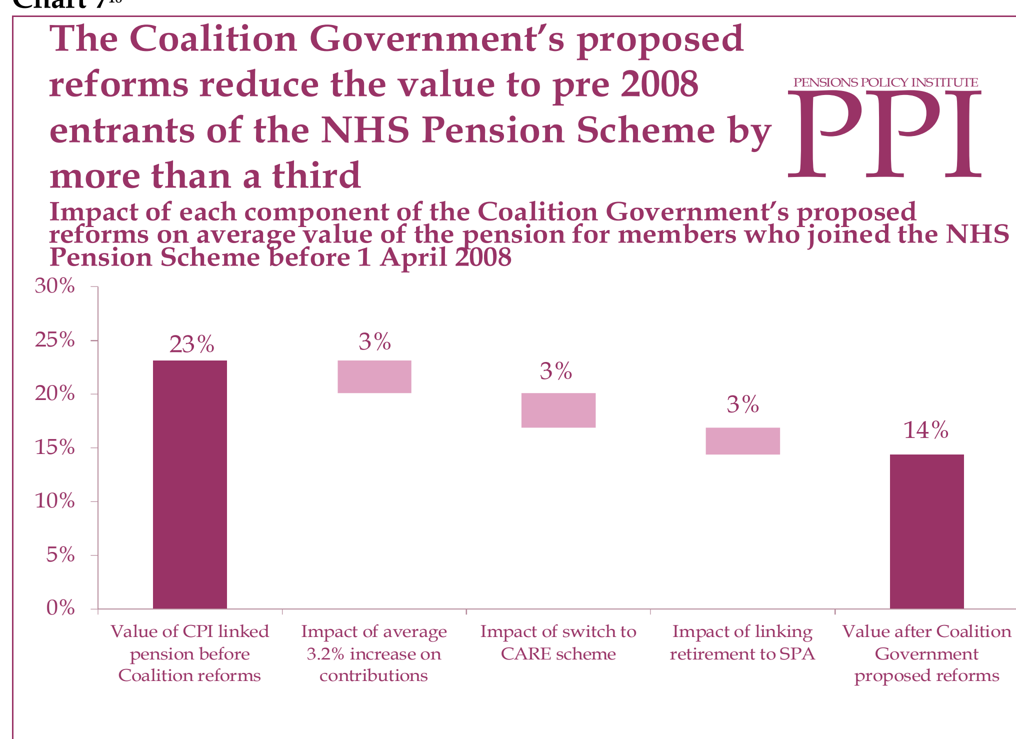
- Nevertheless, even after the reforms the value of the Civil Service pension scheme remains more valuable than an average private sector Defined Contribution scheme into which employers typically contribute around 7% of a DC scheme member's salary.

Chapter three: the impact of the different components of the Coalition Government's proposed reforms

This chapter looks at the impact of the different components of Coalition Government's proposed reforms for members of the NHS pension scheme who joined the scheme before the 2007/8 reforms and for members who joined after the introduction of the 2007/8 reforms.

The impact of the Coalition's reforms on members of the NHS Pension Scheme who have joined the scheme before 1 April 2008

Chart 7[18]



- Chart 7 shows that the average value of the pension benefit offered to members who have joined the NHS Pension Scheme before 1 April 2008 reduces by more than a third under the Coalition Government's proposed reforms, from 23% of a scheme member's salary before the proposed reforms with final salary benefits paid out from age 60 and CPI indexation, to 14% of a scheme member's salary after the Coalition's proposed reforms are introduced which increase member contributions, move to CARE and link the Normal Pension Age (NPA) to State Pension Age (SPA).

[18] PPI EEBR analysis using scheme designs as set out in the proposed final agreement for the NHS Pension Scheme, summarised in Annex 1. Methodology and assumptions for the EEBR are set out in Annex 2. Figures rounded to the nearest 1%.

- The different components of the Coalition's proposed reforms all contribute to the total reduction in the average value of the pension benefit offered by the scheme. The increase in average member tiered contributions, under which higher earners pay higher contributions than lower earners, reduces the average value of the pension benefit offered by the scheme by 3% of a member's salary. For a higher earner the reduction in value due to the contribution increase would be higher than 3% and for a low earner it may be lower than 3%.

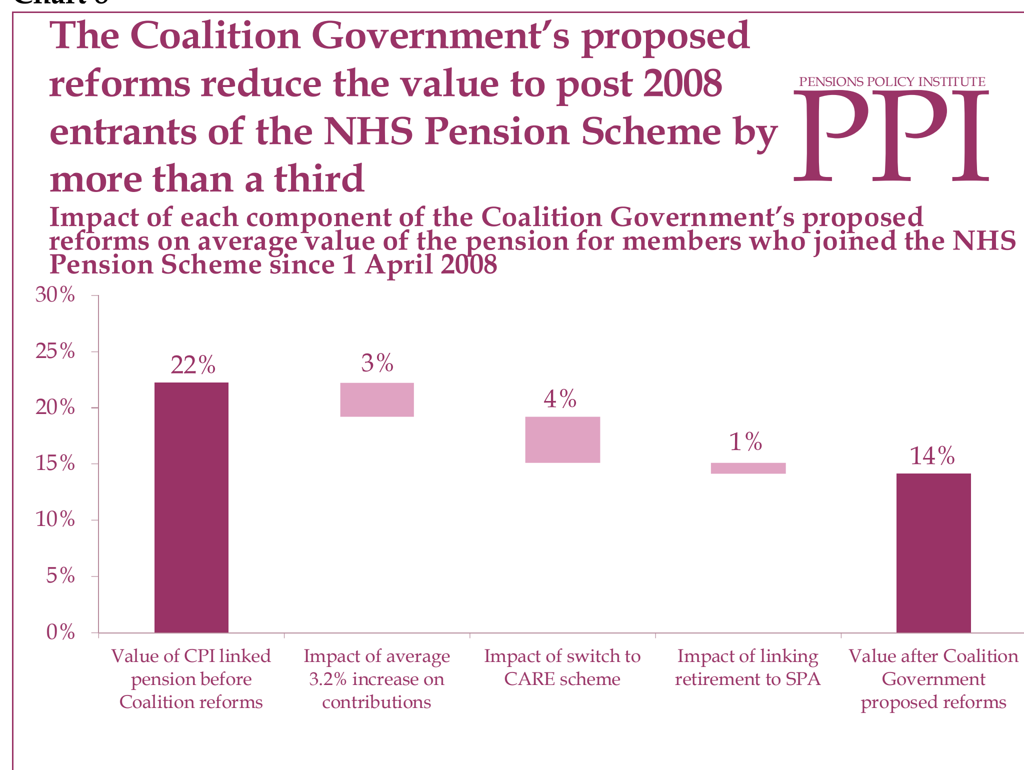
- The switch from a final salary scheme with a 1/80th accrual rate with a 3/80th lump sum to the new NHS CARE scheme reduces the average value of the pension benefit being offered by the scheme by 3% of a member's salary.

- Linking the Normal Pension Age to the State Pension Age instead of having an NPA of 60 reduces the average value of the pension benefit by a further 3% of a member's salary.

- Nevertheless, even after the Coalition's proposed reforms the average value of the NHS Pension Scheme of 14% of a member's salary is still worth more than the value of an average Defined Contribution pension scheme that many workers in the private sector are offered, into which employers typically contribute around 7% of a DC scheme member's salary.

The impact of the Coalition's reforms on members of the NHS Pension Scheme who have joined the scheme since 1 April 2008

Chart 8[19]



- Chart 8 shows that the average value of the pension benefit offered to members who have joined the NHS Pension Scheme since 1 April 2008 reduces by more than a third under the Coalition Government's proposed reforms, from 22% of a scheme member's salary before the proposed reforms with final salary benefits paid out from age 65 and CPI indexation to 14% of a scheme member's salary after the Coalition's proposed reforms are introduced which increase member contributions, move to CARE and link the NPA to SPA.

- The different components of the Coalition's proposed reforms contribute to the total reduction in the average value of the pension benefit offered by the scheme. The increase in average member tiered contributions, under which higher earners pay higher contributions than lower earners, reduces the average value of the pension benefit offered by the scheme by 3% of salary. For a higher earner the reduction in value due to the contribution increase would be higher and for a low earner it may be lower than 3%.

[19] PPI EEBR analysis using scheme designs as set out in the proposed final agreement for the NHS Pension Scheme, summarised in Annex 1. Methodology and assumptions for the EEBR are set out in Annex 2. Figures rounded to the nearest 1%.

- The switch from a final salary scheme with a 1/60th accrual rate to the new NHS CARE scheme with an accrual rate of 1/54th reduces the average value of the pension benefit in the scheme by 4% of salary.

- Linking the NPA to SPA instead of having an NPA of 65 reduces the average value of the pension benefit by a further 1% of salary.

- Nevertheless, even after the Coalition's proposed reforms the average value of the NHS Pension Scheme of 14% of a scheme member's salary is still worth more than the value of an average Defined Contribution pension scheme that many workers in the private sector are offered, into which employers typically contribute around 7% of DC scheme member's salary.

Annex 4, 5 and 6 show the impact of the Coalition's proposed reforms for members of the Teachers', Local Government and Civil Service pension schemes who joined before the 2007/8 reforms and for members who have joined the schemes since the 2007/8 reforms.

The impact of the reforms on scheme members with different characteristics
The average EEBR figures presented in this report so far have enabled us to compare the average value of the four largest public service pension schemes – the NHS, Teachers', Local Government and Principal Civil Service pension schemes - both before and after the Coalition Government's proposed reforms. The figures illustrate the overall impact of the reforms on the value of the pension benefits for public service workers.

However, care should be taken when interpreting the average figures as the outcomes can vary significantly for scheme members with different characteristics. The salary progression, earnings, and whether a member leaves the scheme before reaching their Normal Pension Age, could also influence the impact of the reforms on their pension benefit. As a result, the actual impact of the reforms for any given scheme member could differ substantially from the average figures shown for the four main schemes in this report, depending on the scheme member's own individual circumstances.

The next chapter in this report provides estimates of the EEBR for members with different salary progression, earnings levels and membership characteristics.

Chapter four: the impact of the Coalition Government's reforms on members with particular characteristics

This chapter considers the implications of the Coalition Government's reforms to the four largest public service pension schemes for scheme members with different characteristics, including:

- Those with fast salary progression (high-flyers) compared to those with slow salary progression (low-flyers).
- Those with high earnings compared to those with low earnings.
- Those who stay in the scheme for only a short period of time (early leavers) compared to those who stay for a long period of time (long-stayers).

The NHS Pension Scheme for members joining before 1 April 2008 has been used to illustrate the impact of the Government's proposed reforms on members with different characteristics. We have used the NHS scheme because it is the largest of the unfunded public service pension schemes and the scheme for those that joined before 1 April 2008 still contains most of the active scheme members.

High-flyers versus Low-flyers

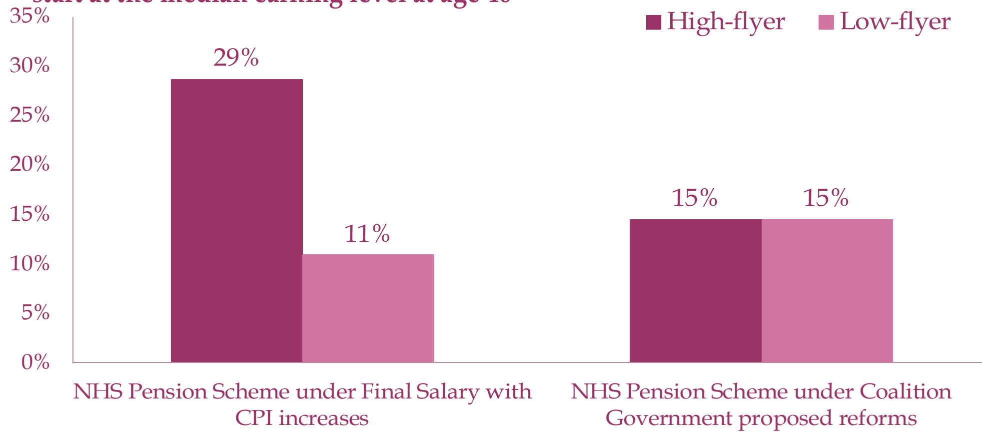
For a member with faster than average salary progression – a high-flyer - the pension provided by a final salary scheme may be more valuable than for a member with below average salary progression – a low-flyer. This is because in a final salary scheme the pension is linked to final salary but employee contributions are based on current salary, leading to a high benefit for a lower contribution for a high-flyer. By contrast, a scheme with Career Average Revalued Earnings (CARE) benefits tends to be equally valuable to high-flyers and low-flyers in terms of the value of the benefit provided as a percentage of salary because members accrue a pension based on their salary level in each year of membership.

In the NHS Pension Scheme for members joining before 1 April 2008 and before the introduction of the Coalition Government's proposed reforms the scheme had final salary benefits, a Normal Pension Age of 65 and CPI indexation. For a high-flyer 40-year-old member, whose earnings are assumed to increase above average earnings inflation, the value of the pension benefit offered in the NHS final salary scheme would be 29% of salary. This compares to an average value of 11% of salary for a low-flyer 40-year-old member in the NHS final salary scheme whose earnings increase in line with the CPI until he retires at age 65. The analysis shows that before the reforms public service final salary schemes were offering very valuable benefits to high-flyers who tend to benefit disproportionately from final salary schemes (Chart 9).

Chart 9[20]

High-flyers and low-flyers have a pension benefit worth the same percentage of their salary under the Coalition Government's proposed reforms

Value of the NHS Pension Scheme to members joining before 1 April 2008 who are: a high flying 40 year old man compared with low flying 40 year old man who both start at the median earning level at age 40



After the Coalition Government's proposed reforms high-flyers and low-flyers will have a pension benefit worth the same percentage of salary, with the average value of the pension offered being worth 15% of salary for both members. The reforms will therefore reduce the disparity in the pension benefits received between high-flyers and low-flyers.

It should be noted that after the Coalition's reforms the low-flyer receives a benefit that is worth 15% of their salary, which is higher than the 11% of salary that the low-flyer would have received before the reforms. The analysis shows that for some scheme members with modest salary progression throughout their career the CARE scheme reforms may offer more valuable benefits than the pre-reform final salary scheme would have done.

Conversely, it is also worth noting that the value of the high-flyer's pension benefit falls substantially as a result of the Coalition's reforms, reducing from 29% of the high-flyer's salary before the reforms, to 15% of their salary after the reforms.

[20] PPI EEBR analysis based on proposed NHS Pension Scheme reforms. A high-flyer is assumed to have faster than average salary increases equivalent to 1% higher earnings growth every year. A low flyer is assumed to receive no promotional advancement and annual salary increases in line with growth in CPI. Median salary is assumed to be £26,100 per year, in line with the median earnings of a full-time employee in the UK in the Annual Survey of Hours and Earnings in 2011. Figures rounded to the nearest 1%.

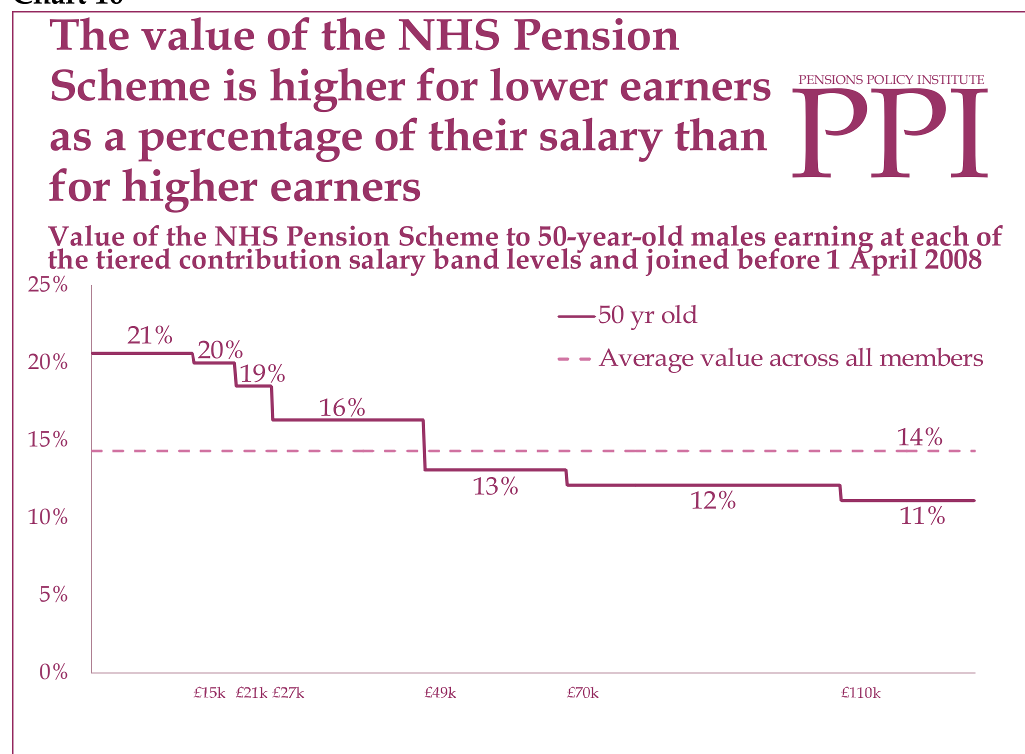
Higher earners versus lower earners

The Coalition Government's proposed reforms use tiered contributions so higher earners pay, on average, a higher contribution rate than lower earners. As a consequence, the value of the pension received by lower earners will be higher as a percentage of their salary than that of higher earners, as higher earners must pay higher contributions for the pension they receive, compared to lower earners.

For example, a 50-year-old member of the NHS Pension Scheme who joined the scheme before 1 April 2008 earning up to £15,000 will pay a contribution rate of 5% of salary by 2014/15 under the Coalition Government's proposed reforms. As a result, the pension benefit that this low earning member will receive is worth 21% of salary.

By contrast, a 50-year-old member of the NHS Pension Scheme who joined the scheme before 1 April 2008 with earnings above £110,274 will pay contributions of 14.5% of salary by 2014/15 under the Coalition Government's proposed reforms. As a result, the value of the pension offered by the scheme to this high earning scheme member is worth 11% of salary. This does not mean that a higher earner gets a lower pension in absolute terms than a lower earner, but that a lower earner accrues a pension per year that represents a higher percentage of their salary, compared to a high earner (Chart 10).

Chart 10[21]



[21] PPI EEBR analysis using the scheme design set out in the proposed final agreement for the NHS Pension Scheme and summarised in in Annex 1. Methodology and assumptions for the EEBR are set out in Annex 2. Figures rounded to the nearest 1%.

Chart 10 also shows that the average value of the pension benefit across all earning levels of a member of the NHS Pension Scheme who joined before 1 April 2008 is 14% of a member's salary. 50-year-old members who joined the NHS scheme before 1 April 2008 with earnings below £49,000 will have a pension benefit worth higher than the average of 14% of a member's salary, while 50-year-old members who joined the NHS scheme before 1 April 2008 with earnings above £49,000 will have a pension benefit worth less than the average of 14% of a member's salary.

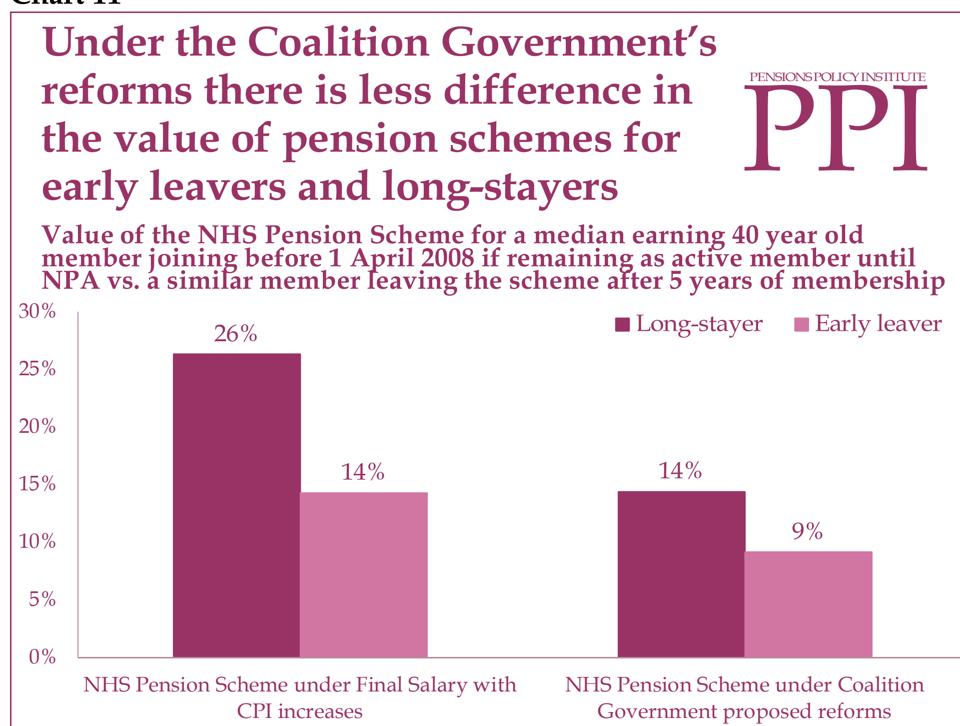
Early leavers versus long-stayers

Before the introduction of the Coalition Government's proposed reforms, members who leave the scheme before reaching their Normal Pension Age (NPA), have their pension calculated according to their earnings during their last year of membership uprated by changes in the CPI until reaching NPA. Active members have their pension benefit calculated according to their earnings before retirement. Therefore before introduction of the Coalition's reforms the value of the pension for an early leaver could be much lower than for a long-stayer, as CPI could increase more slowly than earnings.

Under the Coalition Government's proposed reforms pensions accrued are linked to Career Average Revalued Earnings (CARE). The pension accrued by active members for each year of membership in the NHS Pension Scheme and Teachers' Pension Scheme will be uprated by changes in the CPI plus 1.5% and plus 1.6%, respectively, and by the CPI in the Local Government and Civil Service pension schemes. Deferred members will have their pension benefits uprated by the CPI in all schemes.

Reducing the difference in the measure used to uprate pensions accrued by active and deferred members could reduce the difference in the value of the pension scheme for early leavers and long-stayers of the schemes that would arise if earnings grew faster than the index used to revalue deferred pensions (Chart 11).

Chart 11[22]



For example, before the Coalition Government's proposed reforms, the value of the pension benefit earned in a year for a median earning 40-year-old member of the NHS Pension Scheme whose earnings increase in line with average earnings growth, who joined before 1 April 2008 and stays in the scheme until they retire at their NPA - a long-stayer - would be worth 26% of salary. This compares to the value of the pension benefit earned in a year of 14% of a member's salary for an early leaver who has the same earnings and earnings growth but leaves the scheme after 5 years of membership.

By comparison, under the Coalition Government's proposed reforms for the NHS Pension Scheme, the value of the pension earned in a year for a long-stayer would be 14% of salary, compared to 9% for an early leaver. Under the Coalition's proposed reforms there is therefore a smaller difference between the value of the pension offered to a long-stayer and an early leaver than before the Coalition's proposed reforms. The same effect applies to the Teachers' Pension Scheme.

The effect is slightly different for the Local Government Pension Scheme (LGPS) and the Civil Service pension scheme. Before the Coalition's reforms a member of the LGPS or the final salary sections of the Civil Service pension scheme who stayed in the scheme until retirement would be likely to receive a

[22] PPI EEBR analysis based on proposed NHS Pension Scheme reforms. A long-stayer is assumed to be an active member of the pension scheme until their NPA. A short-stayer is assumed to become a deferred member of the pension scheme after 5 years of service. Median salary is assumed to be £26,100 per year, in line with the median earnings of a full-time employee in the UK in the Annual Survey of Hours and Earnings in 2011. Figures rounded to the nearest 1%.

higher value for the pension earned in a year than an employee who left early. This is because the employee's pension would be linked to their final salary and their salary is likely to continue to increase annually during their career, whereas the deferred member's salary used for the calculation of pension benefits will only increase in line with the CPI once they have left public service.

However following the Coalition's reforms members with the same salary in the LGPS and Civil Service schemes would receive the same value for the pension earned in a year irrespective of whether they remained employed up to their NPA. This is because the pension earned is revalued up to retirement in line with CPI whether or not the member is still employed. So, for example, after the Coalition's reforms members of the LGPS scheme will receive the same percentage of salary in pension benefit each year irrespective of whether they are in the scheme for a short period – an early leaver – or for the whole of their career – a long-stayer. The same effect applies to the Civil Service Pension Scheme.

Chapter five: the impact of the Coalition Government's proposed reforms on affordability and sustainability

This chapter considers the impact of the Coalition Government's reforms on the affordability and sustainability of public service pension schemes. In this chapter, the funded Local Government Pension scheme is considered separately from the unfunded public service pension schemes (the NHS, Teachers and Civil Service schemes). In some places in this chapter, in order to maintain comparability with projections published by the Office for Budget Responsibility (OBR), estimates of government expenditure on the uniformed services pension schemes (the Armed Forces, Police and Fire schemes) as well as other unfunded public service schemes are also considered.

Measuring the affordability of public service pension schemes

To provide a measure of the affordability of public service schemes, this chapter considers how much the Government spends on running public service pension schemes. For the unfunded schemes of the NHS, Teachers and Civil Service, the measure used is government expenditure on unfunded public service schemes. This measure is expressed as a percentage of Gross Domestic Product (GDP).[23] It indicates how much cash the Government must contribute each year in order to run the unfunded public service schemes.

Government expenditure on unfunded public service pension schemes

The unfunded public service pensions operate under a Pay-As-You-Go funding principle, where the current pensions in payment are financed by the contributions collected in respect of current employees' pension accrual, with the Treasury providing any balance of cost as required.

Government expenditure on unfunded public service pension schemes represents how much the Government needs to pay out each year to meet its unfunded public service pension obligations. Gross government expenditure on public service pension schemes only includes government expenditure on paying unfunded public service pensions in payment. Net government expenditure deducts members' contributions.

As the Coalition Government reforms to the unfunded public service pension schemes will affect both the pensions in payment from the schemes and member pension contributions to the scheme, this analysis considers each component of pension expenditure, before using them to show the impact on net government expenditure on unfunded public service pensions. To aid comparability with published OBR figures, pensions in payment and employee contributions to all unfunded public service schemes have also been included in this analysis.

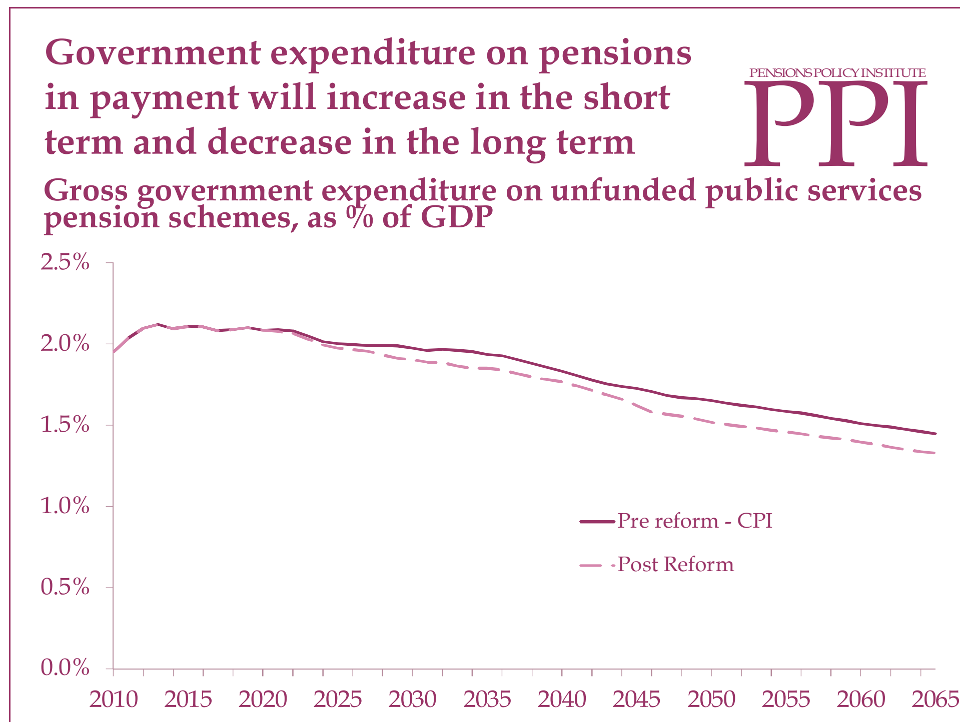
[23] Gross Domestic Product is defined as the market value of all officially recognised goods and services produced within the country.

Pensions in payment

Chart 12 shows how pensions in payment to members of the unfunded public service pension schemes are projected to evolve, under two different scenarios.

- If the unfunded public service pension schemes had remained as after the 2008 reforms but with pension benefits indexed to the CPI, as announced by the Coalition Government in 2010.
- If the Coalition Government's latest reforms are implemented, including the move to Career Average and the change in Normal Pension to align it with the State Pension Age.

Chart 12[24]



If the unfunded public service pension schemes had remained as after the 2008 reforms but with pension benefits indexed by the CPI, pensions in payment would have peaked at 2.1% of GDP in 2013, before falling to 1.4% by 2065.

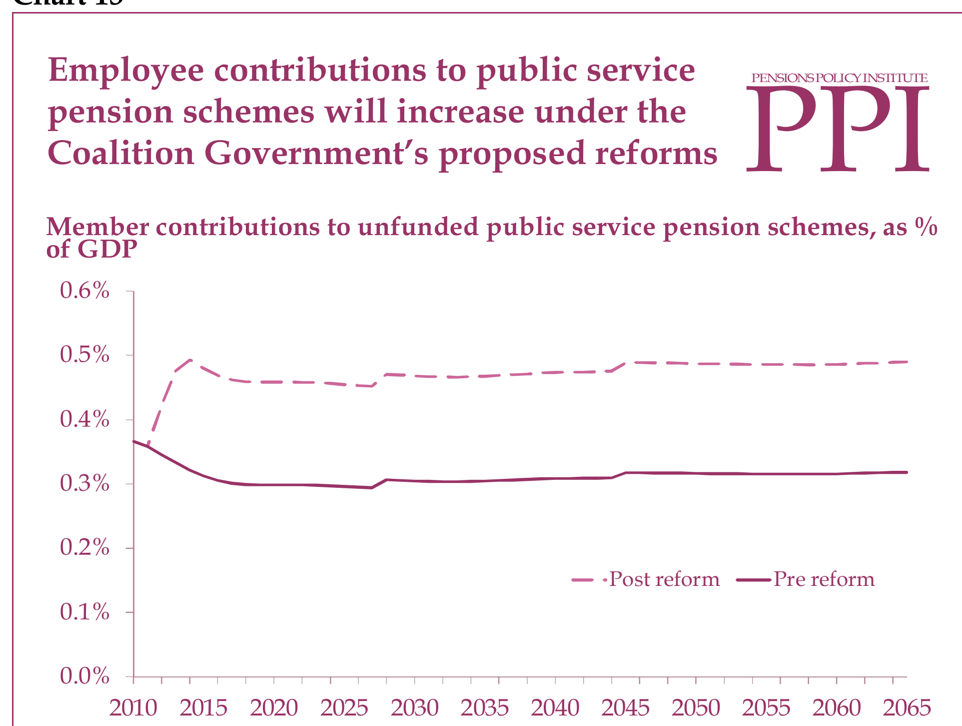
The impact of the recent Coalition Government reforms (including the move to Career Average schemes and aligning the Normal Pension Age to the State Pension Age) is to reduce the projected pensions in payment from the unfunded public service pension schemes. After implementation of the reforms, pensions in payment are estimated to peak at 2.1% of GDP in 2013, before falling to 1.3% of GDP by 2065.

[24] PPI Aggregate Model. Estimates include the NHS, Civil Service and uniformed services pension schemes.

Employee contributions

The Coalition Government's reforms also increase the level of employee contributions for members of the unfunded public service pension schemes.[25] Chart 13 shows the projected level of employee contributions before and after the increase as part of the Coalition Government's reforms.[26]

Chart 13[27]



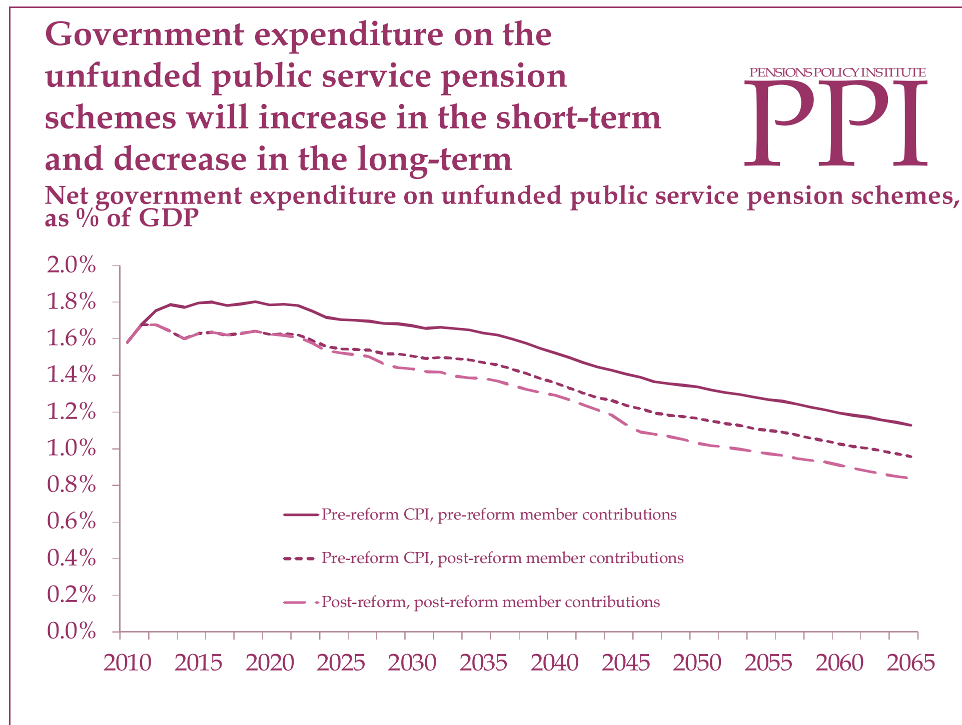
Before the Coalition Government's proposed reforms, member contributions were projected to drop from around 0.4%of GDP in 2010 to around 0.3% of GDP in 2027 as a consequence of a reduction in the size of the public service workforce. Member contributions would then remain almost flat until 2065.

The Coalition Government's proposed reforms increase member contributions for the unfunded schemes by an average of 3.2% for each scheme. Under this scenario, member contributions are projected to increase in the short-term up to 0.5% of GDP in 2014.

[25] PPI Aggregate Model. Although contributions are not increased for members of the armed forces scheme. Contributions to the funded Local Government Pension scheme have been re-structured, but the average member contribution level is not increased.
[26] Member contributions will depend on what proportion of public service employees decide to opt-out from the unfunded public service schemes. Opt-out rates are considered later in the chapter
[27] PPI Aggregate Model. Estimates include the NHS, Teachers, Civil Service, uniformed services pension schemes as well as other unfunded public service pension schemes.

Net Government expenditure on unfunded public service pension schemes
Chart 14 shows how the overall annual net government expenditure on the unfunded public service pension schemes (pensions in payment less employee contributions) is projected to evolve, under the different policy scenarios. The impact of the different policy scenarios are shown separately: first the impact in net government expenditure with pre-reform levels of member contributions and then the impact on net government expenditure with higher post-reform levels of member contributions.

Chart 14[28]



If the unfunded public service pension schemes had remained as after the 2008 reforms but with pension benefits indexed by the CPI, net government expenditure on the unfunded public service schemes would have peaked at around 1.8% of GDP in 2016, before falling to around 1.1% by 2065.

If the unfunded public service pension schemes had remained as after the 2008 reforms but with pension benefits indexed by the CPI and with higher post-reform levels of member contributions, net government expenditure would have fallen to around 1% of GDP by 2065.

The impact of the recent Coalition Government reforms (including the changes in the benefit structures and the increase in employee contributions) is to reduce net government expenditure on the unfunded public service pension schemes further. After implementation of the reforms net government

[28] PPI Aggregate Model. Estimates include the NHS, Teachers, Civil Service, uniformed services pension schemes as well as other unfunded public service pension schemes.

expenditure is estimated to fall to around 0.8% of GDP by 2065 – a reduction of around a quarter compared to the pre-reform system.

These estimates are similar to those published by the OBR, particularly in the long-term net government expenditure.[29] The estimates are not identical, as they have been made using different data and methodologies.[30] But both PPI projections and those published by the OBR suggest that long-term net government expenditure on the unfunded public service pension schemes will fall, and that the impact of the Coalition Government's reforms is to further reduce government expenditure on unfunded public service pension schemes.

Government expenditure on public service pensions will depend on how many employees opt-out of public service pension schemes

Government expenditure on the unfunded public service schemes is dependent on a number of different economic factors, such as the growth of employment in the public sector and the growth of public sector wages.[31] However, these factors are also likely to affect the level of GDP, so reducing the sensitivity of the estimates government expenditure on the unfunded public service schemes as a proportion of GDP.

Other factors may have more impact on the estimates. One concern raised about the reforms to the public service pension schemes is that the combination of higher contributions, potentially lower benefits and longer working lives may lead to an increase in the number of individuals who choose to opt-out of public service pension schemes. This may be offset by the fact that even after the reforms, the value of the public service pension schemes to employees is still relatively generous, and employees would not be able to access the employer contribution to the pension scheme if they opted-out of the scheme.

This would not directly impact on GDP, but would impact on government expenditure on the unfunded public service pension schemes in two ways:

- In the long-term, the amount of pension paid out by the unfunded public service pension schemes is reduced to reflect the lower membership.
- But in the short-term the amount collected from employees in contributions would fall.

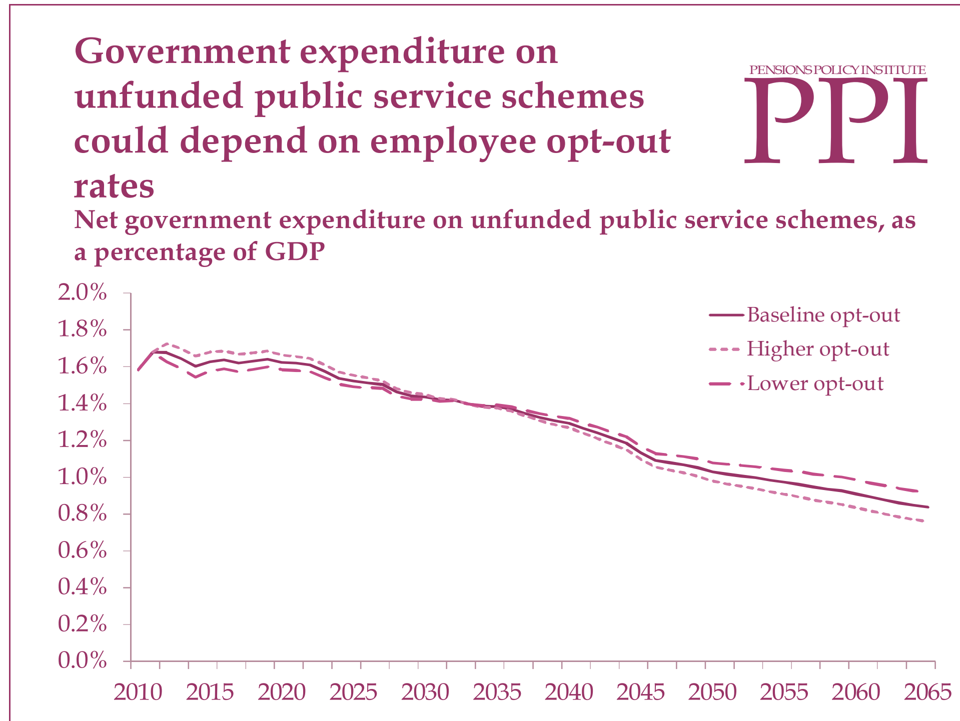
Currently, across all of the public service pension schemes approximately 15% of employees opt-out of the pension schemes that they are eligible to join.[32] A 15% opt-out rate has therefore been used as a baseline for this analysis. In reality, the actual opt-out rates may vary from scheme to scheme.

[29] OBR (2012)
[30] See annex 9 for details of the methodology used in the PPI estimates.
[31] See annex 2 for details of the assumptions used in the PPI estimates
[32] ONS (2012a)

Chart 15 below shows the impact on net government expenditure on the unfunded public service pension schemes of two alternative opt-out scenarios:

- A higher opt-out scenario of 25%, based on an estimated 10 percentage point increase in the opt-out rate as a result of the reforms.
- A lower opt-out scenario of 5%, based on a 10 percentage point decrease in the opt-out rate as a consequence of automatic enrolment in workplace pensions.

Chart 15[33]



A higher opt-out rate increases net government expenditure on unfunded public service schemes in the short-term, as the Government must pay existing pensions while collecting a lower amount of contributions. However, in the long-term, a higher opt-out rate reduces government expenditure on public service pension schemes as fewer public service pensions must be paid. By contrast, a lower opt-out rate leads to lower government expenditure on the unfunded public service pension schemes in the short-term as more people contribute to the schemes. However, in the long-term more people accrue a right to a pension so net government expenditure on the unfunded public service pension schemes increases.

Under the central opt-out rate scenario of 15%, net government expenditure could be around 0.8% by 2065. If the opt-out rate increased to 25%, net government expenditure could decrease to around 0.7% of GDP by 2065.

[33] PPI Aggregate Model. Estimates include the NHS, Teachers, Civil Service, uniformed services pension schemes as well as other unfunded public service pension schemes. Opt-out rates are assumed to be evenly spread across all earnings groups. See Annex 9 for more details on the assumptions used for this analysis.

Conversely, if the opt-out rate decreased to 5%, net government expenditure could increase to around 0.9% of GDP by 2065.

The affordability of the Local Government Pension Scheme

Cost and affordability issues for the funded Local Government Pension Scheme (LGPS) are different from those for the unfunded public service pension schemes. As the contributions from employers, employees and Government (implicitly through tax relief) are paid into a fund which is invested, there is not the same direct implication for future government expenditure on this scheme.

However, employer contributions into the LGPS will be funded through Central Government finance to Local Authorities (ultimately paid for through taxation), and Local Authority revenue from local taxation (Council Tax), so the impact of the Coalition Government's reforms on the long-term inflows and outflows from the LGPS schemes and on the relative funding position of the LGPS are important.

Although in this analysis the LGPS is treated as a single entity, in reality the LGPS is composed of a number of funds. The Scheme is administered for participating employers through 99 regional pension funds for individual local authorities in Scotland, England and Wales, which are all run autonomously.[34] These funds will each have their own individual characteristics in terms of the age and earnings profiles of fund memberships, investment profiles, funding levels and employer contribution levels. The analysis here is not of any specific single Local Authority pension fund, but is designed to indicate the likely relative size of any changes across the LGPS as a whole.

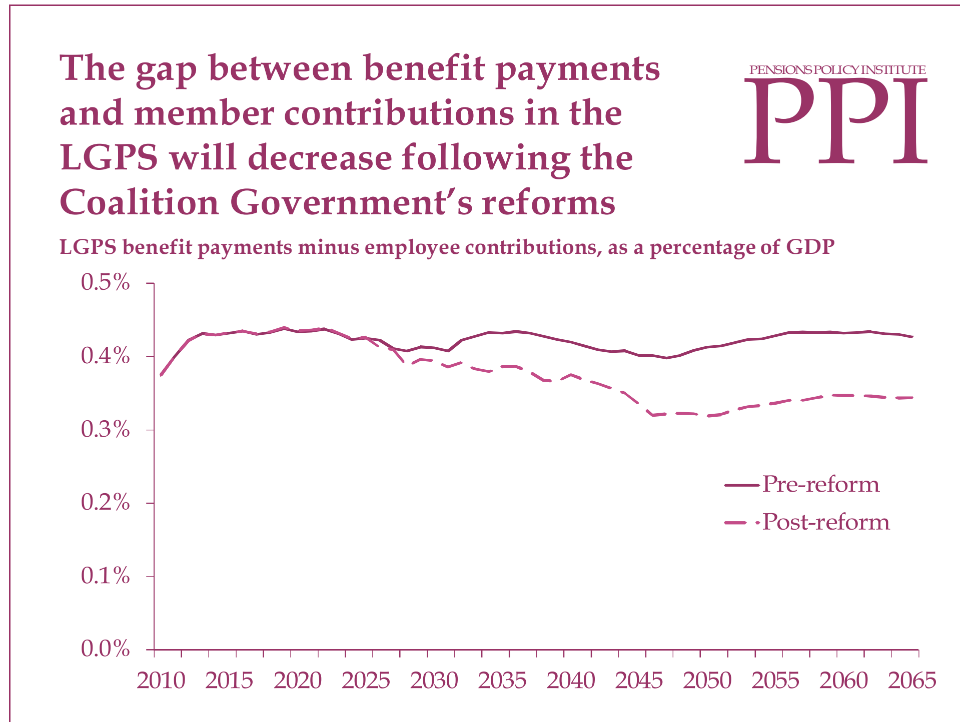
Chart 16 shows projected estimates of pension payments made by the LGPS, after adjusting for employee contributions received, in the same way that net government expenditure on the unfunded public service schemes has been estimated, under different policy scenarios.

These are not estimates of a 'cost', because as well as employer contributions that will be funded by Local Authorities (and ultimately by national or local taxpayers) the funded LGPS will also receive investment income which is used to help fund pension payments.

However, looking at the relative gap between pensions in payment and employer contributions can give an idea of the relative level of strain that may be placed on investment returns and employer contributions to fill the gap.

[34] www.lgps.org.uk

Chart 16[35]



As the overall level of employee contributions is not affected by the reforms, all of the change is attributable to changes in pensions in payment and so the components (pensions in payment and employee contributions) are not shown separately.

In 2010, pension payments from LGPS schemes exceeded employee contributions by around 0.4% of GDP. Under the terms of the LGPS in place after the 2008 reforms and with benefits indexed to the CPI, as announced by the Coalition Government in 2010, excess payments would have exceeded employee contributions by around 0.4% of GDP by 2065.

The Coalition Government reforms, including the changes to the benefit structure and the Normal Pension Age contained in the Public Service Pension Act, will reduce excess of pensions in payment above employee contribution in the future. After the implementation of the reforms, the excess of pension payments over employee contributions in the LGPS is projected to fall to around 0.35% of GDP by 2065, compared to 0.4% before the reforms.[36]

The affordability of the LGPS will depend on employee opt-out rates

The LGPS is also subject to the uncertainty surrounding opt-out rates as a result of the Coalition Government reforms to the pension scheme on one hand, and the introduction of automatic enrolment on the other.

[35] PPI Aggregate Model

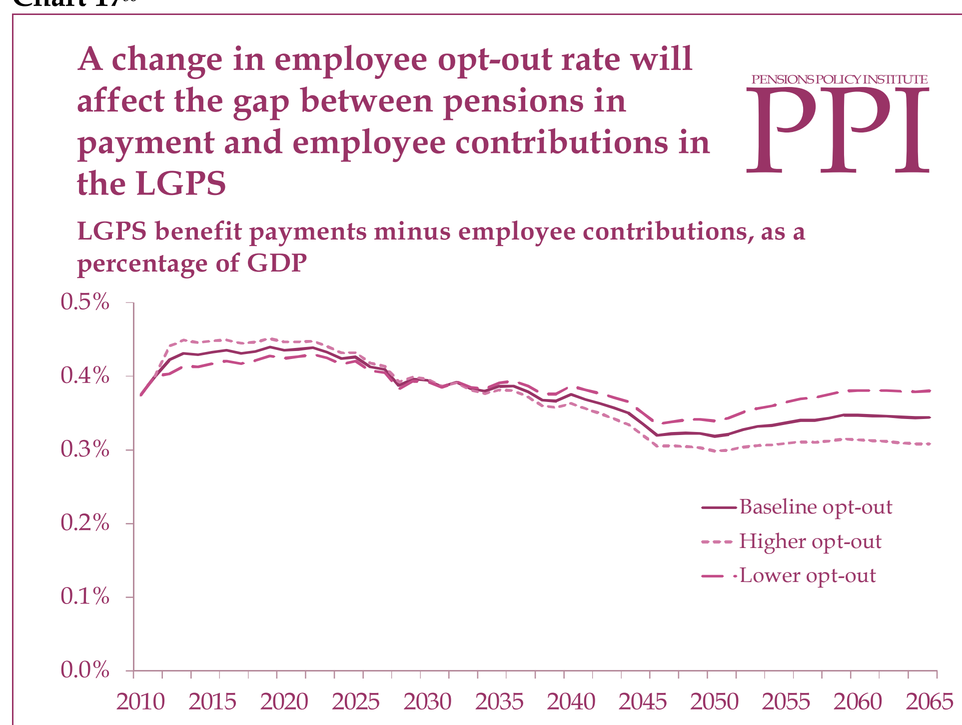
[36] Estimates are rounded to the nearest 0.05% of GDP, instead of 0.1% of GDP, to better show the variation in the estimates in the pre and post-rerform scenarios and their sensitivity to different opt-out rates.

Currently, across all of the public service pension schemes approximately 15% of employees opt-out of the pension schemes that they are eligible to join.[37] A 15% opt-out rate has therefore been used as a baseline for this analysis. In reality, the actual opt-out rates may vary from scheme to scheme.

Chart 17 below shows the impact on gap between pensions in payment and employee contributions to the LGPS of two alternative opt-out scenarios:

- A higher opt-out scenario of 25%, based on an estimated 10 percentage point increase in the opt-out rate as a result of the reforms.
- A lower opt-out scenario of 5%, based on a 10 percentage point decrease in the opt-out rate as a consequence of automatic enrolment in workplace pensions.

Chart 17[38]



A higher opt-out rate is associated with a higher payment requirement from LGPS funds in the short-term, as fewer contributions are received, compared to the baseline scenario. In the long-term, as fewer people accrue right to a pension, a higher opt-out rate is associated with a lower payment requirement from LGPS funds. By contrast, a lower opt out rate is associated with a lower payment requirement in the short-term as more contributions are received and a higher payment requirement in the long-term, as more pensions must be paid.

[37] ONS (2012a)

[38] PPI Aggregate Model. Opt-out rate is assumed to be evenly spread across all earnings groups.

Under the central opt-out rate scenario of 15%, the gap between pensions in payment and member contributions in the LGPS could be around 0.35% of GDP by 2065. If the opt-out rate increased to 25%, the gap between pensions in payment and member contributions could decrease to around 0.3% of GDP by 2065. If the opt-out rate decreased to 5%, the gap between pensions in payment and member contributions could increase to around 0.4% of GDP.

Chapter 6: the differences in pay between the public and the private sector

This chapter discusses the differences in pay between the public and the private sector. The chapter explains that comparisons of pay among the two sectors must be handled with care due to key differences in each sector workforce. The chapter also discusses that lower paid employees are more likely to be members of a pension scheme in the public sector than in the private sector.

It is difficult to estimate to what extent there is a pay gap between the private and the public sector

Historically it has been suggested that good public service pension schemes make up for lower pay in the public sector. However, recent data suggests that unadjusted average pay in the public sector across the UK is now higher than in the private sector.

Unadjusted average hourly wages of public sector workers in the UK are around 24% higher than those in the private sector. However, using unadjusted averages of hourly pay in both sectors is misleading. This is because of differences between the private and the public sectors in the types and skill levels of jobs, the experience, the distribution of men/women, the qualifications of employees and the location of jobs.[39] For example:

- There is a higher proportion of employees in high skill jobs in the public sector than in the private sector.
- There is also a higher proportion of employees with higher qualifications in the public sector than in the private sector.
- The workforce is older in the public sector than in the private sector, and earnings tend to increase with age.
- There is a higher proportion of women with high skill jobs in the public sector than in the private sector.
- Differences in pay between the two sectors vary significantly by region.

After taking into account differences in experience and education, hourly wages in the public sector are still around 8% higher than in the private sector.[40]

There is a higher proportion of employees in high skill jobs in the public sector than in the private sector

There is a larger percentage of workers in the highest skill groups in the public sector, compared to the private sector. Around 59% of public sector employees are in either high skill or upper skill jobs, compared to around 49% in the private sector (Table 1).

[39] ONS (2012c)
[40] ONS (2012c)

Table 1: Percentage of employees by skill level, April 2011, UK[41]

Skill level	Public Sector	Private Sector
High skill	30%	26%
Upper middle	29%	23%
Lower middle	32%	37%
Low skill	9%	14%

The higher concentration of high skilled employees in the public sector compared to the private sector may be explained by recent trends in public sector management, such as the outsourcing of government services to the private sector since the 1980s.[42] While some of this outsourcing has involved contracting-out high skill jobs such as IT support, much of the outsourcing has been in lower-skilled jobs, such as cleaning or estate maintenance.

There is a higher proportion of employees with higher qualifications in the public sector

Employees with higher qualifications generally have higher pay than those with low qualifications. Around 40% of public sector employees had a degree or an equivalent qualification, compared to around 25% of private sector employees (Table 2). Therefore, it would be expected that, on average, the higher level of qualifications in the public sector would translate to higher average earnings in the public sector compared to the private sector.

Table 2: Percentage of employees by highest qualification, four quarter average to 2011[43]

Qualification	Public Sector	Private Sector
Degree or equivalent	40%	25%
Higher education	14%	8%
GCE A Level or equivalent	19%	25%
GCSE grades A-C or equivalent	18%	24%
Other qualifications	6%	11%
No qualifications	3%	7%

The workforce is older in the public sector than in the private sector

Age can be considered as a proxy of experience, given that experience tends to increase with age. Earnings tend to increase with age as employees accumulate more experience and are expected to be promoted. Around 15% of employees in the private sector are aged 16 to 24, compared with around 5% of employees in the public sector. Around 44% of public sector workers are aged 35 to 49, compared with around 38% in the private sector.[44]

[41] ONS (2012c), analysis of Annual Survey of Hours and Earnings.
[42] Pollitt and Bouckaert 2003
[43] ONS (2012c), analysis of Labour Force Survey
[44] ONS (2012c), based on Annual Survey of Hours and Earnings

More women are in high skill jobs in the public sector than in the private sector

There is ample evidence on the pay gap between men and women in the private sector, with women generally earning less than men and performing low skill jobs.[45] Women in the public sector tend to perform higher skill jobs than in the private sector. Around 54% of women are in upper middle or high skill jobs such as nursing or teaching, compared to around 34% in the private sector. Similarly, only 8% of women are employed in low skill jobs in the public sector, compared to 15% in the private sector (Table 3).

Table 3: Percentage of female employees by skill level, April 2010[46]

Skill level	Public Sector	Private Sector
High skill	28%	19%
Upper middle	26%	15%
Lower middle	38%	51%
Low skill	8%	15%

Regional differences may account for differences in public and private sector pay

Pay differentials between public and private sector employees vary significantly by region. Average hourly wages for full-time men in the public sector are 30% higher than in the private sector in the North East and Wales. By contrast, average hourly wages for full time men in the public sector in London are 6% lower than in the private sector. The analysis suggests that any comparison between public and private sector pay should account for differences in location.

Pension provision and low pay

Comparisons between public and private sector pay that use unadjusted averages of pay in both sectors are misleading. There are significant differences in experience, qualifications, gender and regional location between the workforce in both sectors that will lead to differences in pay between the public sector and private sector employees.

In both sectors, lower paid employees are less likely to be members of an employer-sponsored pension scheme than higher paid employees. However, membership of a pension scheme is much higher among low paid workers in the public sector than in the private sector. Around 66% of public sector workers earning between £100 and £200 per week are members of an employer-sponsored scheme, compared to only 12% of workers with similar earnings in the private sector (Chart 18).

[45] See for example, Leaker (2008)
[46] ONS (2012c)

Chart 18[47]

[47] ONS (2012a)

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Annex 1: Summary of the main elements of the existing Public Service Pension schemes and the Coalition Government's proposed reforms

Table A1: Summary of the main sections of the NHS Pension Scheme[48]

	NHS Scheme for members who joined after 1995 and before 1 April 2008		**NHS Scheme for members who joined after 1 April 2008**		**Coalition Government's proposed reforms**	
Normal Pension Age (NPA)	60		65		SPA	
Basic design	Final salary		Final Salary		Career average with benefits accrued revalued in line with CPI + 1.5% while active member	
Revaluation in deferment	CPI		CPI		CPI	
Accrual rate	1/80th with 3/80ths lump sum		1/60th with commutation only lump sum		1/54th with commutation only lump sum	
Rate of employee contributions		**2011/12**		**2011/12**		**2014/15**
	Up to £21,175	5.0%	Up to £21,175	5.0%	Up to £15,000	5.0%
	From £21,176 to £69,931	6.5%	From £21,176 to £69,931	6.5%	From £15,001 to £21,175	5.6%
	From £69,932 to £110,273	7.5%	From £69,932 to £110,273	7.5%	From £21,176 to £26,557	7.1%
	£110,274 and above	8.5%	£110,274 and above	8.5%	From £26,558 to £48,982	9.3%
					From £48,983 to £69,931	12.5%
					From £69,932 to 110,273	13.5%
					£110,274 and above	14.5%
Indexation of pensions paid	CPI		CPI		CPI	
Cost-sharing?	No		Yes[49]		No. Employer cost-cap introduced[50]	
In place	From 1995 **for all members**		From 1 April 2008 **for new members**		From 1 April 2015 **for all members**[51]	

48 Based on the Proposed Final Agreement for the NHS Scheme published in March 2012.

49 Cost-sharing meant that unanticipated future increases in costs would be shared 50:50 between public sector employers and the members of the schemes, rather than passed automatically onto public sector employers, as was the former situation. An employer cost cap was also introduced, which capped employer contributions at 14% of salary.

50 The employer cost cap will be set following a full actuarial valuation. The cap will be set at 2% above, and the floor set 2% below, the employer contribution rates calculated ahead of the introduction of the new scheme in 2015.

51 Members within ten years of their Normal Pension Age on 1 April 2012 will have their pension calculated according to the rules in place prior to the introduction of the proposed reforms

Table A2: Summary of the main sections of the Teachers' Pension Scheme[52]

	Teachers' Pension Scheme for members who joined before 1 January 2007		Teachers' Pension Scheme for members who joined after 1 January 2007		Coalition Government's proposed reforms	
Normal Pension Age (NPA)	60		65		SPA	
Basic design	Final salary		Final Salary		Career average with benefits accrued revalued in line with CPI + 1.6% while active member	
Revaluation in deferment	CPI		CPI		CPI	
Accrual rate	1/80th with 3/80ths lump sum		1/60th with commutation only lump sum		1/57th with commutation only lump sum	
Rate of employee contributions		**2011/12**		**2011/12**		**2012/13**[53]
	All earnings levels	6.4%	All earnings levels	6.4%	Up to £14,999	6.4%
					From £15,000 to £25,999	7.0%
					From £26,000 to 31,999	7.3%
					From £32,000 to £39,999	7.6%
					From £40,000 to £74,999	8.0%
					From £75,000 to £111,999	8.4%
					£112,000 and above	8.8%
Indexation of pensions paid	CPI		CPI		CPI	
Cost-sharing?	No		Yes[54]		No. Employer cost-cap introduced[55]	
In place	Before 1 January 2007 **for all members**		From 1 January 2007 **for new members**		From 1 April 2015 **for all members**[56]	

[52] Based on the Proposed Final Agreement for the Teachers' Pension Scheme published in March 2012

[53] The Department of Education will undertake further negotiate with the unions regarding the increases in member contributions for 2013/14 and 2014/15.

[54] Cost-sharing meant that unanticipated future increases in costs would be shared 50:50 between public sector employers and the members of the schemes, rather than passed automatically onto public sector employers, as was the former situation. An employer cost cap was also introduced, which capped employer contributions at 14% of salary.

[55] The employer cost cap will be set following a full actuarial valuation. The cap will be set at 2% above, and the floor set 2% below, the employer contribution rates calculated ahead of the introduction of the new scheme in 2015.

[56] Members within ten years of their Normal Pension Age on 1 April 2012 will have their pension calculated according to the rules in place prior to the introduction of the proposed reforms

Table A3: Summary of the main sections of the Local Government Pension Scheme[57]

	Scheme available for all members before 1 April 2008 (now closed)	Scheme as reformed for all members from 1 April 2008	Coalition Government's proposed reforms
Normal Pension Age (NPA)	65 with the rule of 85[58]	65. Rule of 85 abolished for new service with transitional protection	SPA
Basic design	Final Salary	Final Salary	Career average with benefits accrued revalued in line with CPI while active member
Revaluation in deferment	CPI	CPI	CPI
Accrual rate	1/80th with 3/80ths lump sum	1/60th with commutation only lump sum	1/49th with commutation only lump sum
Rate of employee contributions	All earnings levels 6%	**2011/12** Up to £13,5000 5.5% From £13,501 to £15,800 5.8% From £15,801 to £20,400 5.9% From £20,401 to £34,000 6.5% From £34,001 to £45,000 6.8% From £45,001 to £85,300 7.2% £85,301 and above 7.5%	**2014/15** Up to £13,500 5.5% From £13,501 to £21,000 5.8% From £21,001 to £34,000 6.5% From £34,001 to £43,000 6.8% From £43,001 to £60,000 8.5% From £60,001 to £85,000 9.9% From £85,001 to £100,000 10.5% From £100,001 to £150,000 11.4% £150,001 and above 12.5%
Indexation of pensions paid	CPI	CPI	CPI
Cost-sharing?	No	Yes[59]	No. Employer cost-cap introduced[60]
In place	Before 1 April 2008 **for all members**	From 1 April 2008 **for all members**	From 1 April 2014 **for all members**[61]

[57] Based on the Final Proposed Agreement for the Local Government Pension Scheme published in March 2012
[58] According to this rule, individuals could retire before age 65 with an unreduced pension provided that the sum of their age and years of service was at least 85.
[59] Cost-sharing meant that unanticipated future increases in costs would be shared 50:50 between public sector employers and the members of the schemes, rather than passed automatically onto public sector employers, as was the former situation. An employer cost cap was also introduced
[60] The employer cost cap will be set following a full actuarial valuation. The cap will be set at 2% above, and the floor set 2% below, the employer contribution rates calculated ahead of the introduction of the new scheme in 2015.
[61] Members within ten years of their Normal Pension Age on 1 April 2012 will have their pension calculated according to the rules in place prior to the introduction of the proposed reforms

Table A4: Summary of the main sections of the Principal Civil Service Pension Scheme[62]

	Classic Final Salary scheme (from 1972 to 2002)[63]	Nuvos Career Average For new members from 30 July 2007	Coalition Government's proposed reforms
Normal Pension Age (NPA)	60	SPA	SPA
Basic design	Final salary	Career average	Career average with benefits accrued revalued in line with CPI while active member
Revaluation in deferment	CPI	CPI	CPI
Accrual rate	1/80th with 3/80ths lump sum	2.3% with commutation only lump sum only	2.32% (equivalent to 1/43th) with commutation only lump sum
Rate of employee contributions	**2011/12** All earnings levels 1.5%	**2011/12** All earnings levels 3.5%	**2015/16**[64] Up to £21,000 4.6% From £21,001 to £45,000 5.45% From £45,001 to £149,000 7.35% £149,001 and above 9.0%
Indexation of pensions paid	CPI	CPI	CPI
Cost-sharing?	No	Yes[65]	No. Employer cost cap introduced[66]
In place	From 1972 **for all members.**	From 30 July 2007 **for new members**	From 1 April 2015 **for all members**[67]

[62] Based on the Final Proposed Agreement for the Principal Civil Service Pension Scheme published in March 2012

[63] The Classic section closed in 2002 to new members. New members between 2002 and 30 July 2007 were offered membership in the Premium section, with broadly similar final salary benefits. As of 2010 around 58% of Civil Servants were members of the Classic section of the scheme.

[64] As laid out in the Final Proposed Agreement, these tiered contributions levels are indicative and will be subject to consultation and review with the unions.

[65] Cost-sharing meant that unanticipated future increases in costs would be shared 50:50 between public sector employers and the members of the schemes, rather than passed automatically onto public sector employers, as was the former situation. An employer cost cap was also introduced, which capped employer contributions at 20% of salary.

[66] The employer cost cap will be set following a full actuarial valuation. The cap will be set at 2% above, and the floor set 2% below, the employer contribution rates calculated ahead of the introduction of the new scheme in 2015.

[67] Members within ten years of their Normal Pension Age on 1 April 2012 will have their pension calculated according to the rules in place prior to the introduction of the proposed reforms

Annex 2: Technical Annex on the Effective Employee Benefit Rate Calculation

Effective Employee Benefit Rate
The PPI uses the Effective Employee Benefit Rate (EEBR) to measure the value of the pension benefit provided by alternative Defined Benefit pension schemes and allow for meaningful comparisons of the value of the benefits provided for scheme members in different schemes.

The effective employee benefit rate is an established measure used to compare the value of the pension benefit provided by alternative Defined Benefit pension schemes, as a percentage of a member's salary. The PPI has used this measure in a previous assessment of the implications of the Labour Government's reforms to public service schemes.[68] The PPI has also used this measure in analysis conducted for the Independent Public Service Pension Commission (IPSPC) on the implications of different reform options.

The value of the pension benefit provided by a Defined Benefit pension scheme for a scheme member, as measured by the EEBR, will be determined by a range of factors including, but not limited to:

- **The benefit design of the scheme** – in a Defined Benefit scheme the pension benefit may be linked to the scheme member's final salary or to a measure of their average salary revalued over the course of their career;
- **The accrual rate** – this is the rate at which the pension benefit accrues for each year of service;
- **The Normal Pension Age** – the age at which the scheme member is able to start drawing their pension;
- **The way that the pension benefit is uprated or indexed** – both during active service and when the scheme member leaves the scheme;
- **The extent of other benefits provided** – such as widow's, ill-health or death benefits.
- The extent to which the scheme member is expected to **pay their own member contributions** to meet, or partially meet, the cost of providing the pension benefit.

The EEBR:

- Is expressed as a percentage of the member's salary.
- Is calculated as the percentage of salary that would needed to be given to the scheme member to compensate them for the loss of the scheme, not taking into account the different treatments of pension and salary for national insurance purposes. Member contributions are deducted, to show the value of the pension benefit being offered to the scheme member that is effectively paid for by the employer.

[68] PPI (2008)

The calculation of the effective employee benefit rate requires a series of assumptions to be made, including demographic and financial assumptions. The calculations are sensitive to the assumptions made, particularly the discount rate.

Demographic assumptions
Demographic assumptions include mortality rates, the likelihood that individuals have a partner on death, rates of early withdrawal from service, and rates of retirement through ill-health.

The PPI's research uses assumptions based on the set of assumptions used by HM Treasury when publishing long-term cashflow projections of the future amount of benefits paid by the unfunded public service schemes. These assumptions are produced by the Government Actuary's Department (GAD).

The assumptions in this report are based on the note issued by the GAD in December 2010 setting out the assumptions and data which GAD used in preparing projections of the cashflows for the 2009 Pre-Budget Report related to public service pay-as-you-go pensions. These are the latest estimates that are publicly available at the time of publication.

Financial assumptions
Financial assumptions include the discount rate, price inflation and salary growth. The financial assumptions used for the EEBR calculations are taken from the assumptions used by the Office of Budget Responsibility (OBR) in their July 2012 Fiscal Sustainability publication,[69] with the exception of the RPI assumption (see Annex 3). The main financial assumptions are set out in Table A5.

Table A5: PPI financial assumptions

Financial Variable	Assumption
CPI	2.0%
RPI	3.4%
Earnings	4.75%
Discount rate	5.1% (3% above CPI)

The discount rate is used to convert a projected stream of income from a pension into a single figure. The OBR's economic outlook projections do not require an assumption for the discount rate. The discount rate assumption used in the PPI's EEBR calculations is based on the Government's stated methodology to set the discount rate for calculating public service pension contributions at 3% above CPI. This methodology was announced by the Government following a consultation exercise by HM Treasury in 2011.[70]

[69] OBR (2012)
[70] HMT (2011)

Modelling Normal Pension Age

A feature of the Coalition Government's proposed reforms to the four largest public sector pension schemes is that the Normal Pension Age (NPA) has been set to increase in line with future changes to the State Pension Age (SPA) for men. The modelling in this project assumes increases in SPA approximating a combination of current legislation and announced Government policy.

Since April 2010 women's State Pension Age has been increasing in a series of steps to equalise with men's SPA, and will reach age 65 by November 2018 when SPA will be equal for men and women. According to current legislation, both men and women's SPA will then rise to 66 by 2020.

The NPA for each scheme under the proposed reforms is therefore 65 until 2018 (which is consistent with the current SPA for men), increasing to 66 by 2020. Scheme NPAs are then assumed to increase in line with the Government's announced intention that SPA for both men and women will rise to 67 between 2026 and 2028. In the longer term, SPA and NPA are then modelled as increasing to 68 between 2044 and 2046 as stipulated in current legislation.

Member contribution rate assumptions

In the baseline analysis for this report, it is assumed that members make contributions at the post 2007/8 reforms member contribution rates. For example, all members of the NHS scheme pay a member contribution between 5% and 8.5% of salary, depending on their salary level.

In the assessment of the Government's proposed reforms, all members are assumed to make contributions at the long-term rates set out in the Government's Proposed Final Agreements for 2014/15 and beyond. Some of these rates are still subject to negotiation, so where possible this analysis uses the illustrative contribution rates shown in the Proposed Final Agreements. Where no illustrative contribution rates are shown, PPI have estimated long-term rates based on the pattern of agreed rates and the principles for reform set out in the Agreements.

Transitional Protection for those with 10 years of Normal Pension Age

The Government has proposed that members within ten years of their Normal Pension Age on 1 April 2012 will have their pension calculated according to the rules in place prior to the introduction of the proposed reforms. This has been allowed for in the EEBR analysis. These members will however still be subject to the increased contributions as outlined above.

Assumptions for distributional analysis

High-flyer vs. low-flyer

Under the high-flyer scenario, the employee is assumed to attain earnings increases of 1% p.a. above general earnings inflation. A low-flyer is assumed to

receive no promotional salary increases, and to receive inflationary increases in line with the growth of the Consumer Prices Index (CPI).

The median salary level is assumed to be £26,100, in line with the median salary level for all UK full-time employees in 2011.[71]

Short-stayers vs. long-stayers
Under the short-stayer scenario, the employee is assumed to leave service after 5 years employment. Under the long-stayer the employee is assumed to stay in service until they reach their Normal Pension Age. All other pre-retirement decrements are suspended.

Private Sector Defined Contribution Scheme Comparator
This report provides a Defined Contribution (DC) comparator of the average value of the pension benefit offered to members of a typical DC scheme in the private sector. An average employer contribution rate of 7% has been assumed, based on the 2011 data in the ONS Occupational Pension Scheme Survey.[72]

Previous PPI work has estimated a private sector DC scheme comparator to be worth around 10% of salary. This has included an allowance for eligibility to the State Second Pension (S2P). This allowance has been needed to compare against public service pension schemes in a like-for-like basis, as the public service schemes are contracted out of S2P and therefore allow for the equivalent of S2P.

The Coalition Government has announced its intention to introduce a Single Tier Pension from 2016. Under the new system, new pensioners would receive a single tier pension of around £144 per week, replacing the current Basic State Pension and the State Second Pension (S2P). Therefore, the EEBR comparator for a member of a DC scheme used in this report does not take into account the value of the S2P since the S2P will be eliminated from 2016. As a consequence, the overall value of a typical Defined Contribution scheme is now estimated as the average employer contribution rate of around 7% of a private sector worker's salary.

Private Sector Defined Benefit Comparator
This report provides a private sector comparator of the average value of the pension benefit offered to members of a typical Defined Benefit (DB) scheme in the private sector.

The typical private sector DB pension scheme is assumed to have the following characteristics, based on 2011 data from the ONS Occupational Pension Scheme Survey.[73]

[71] ONS (2012a)
[72] ONS (2012a)
[73] ONS (2012a)

Table A6: Characteristics of a typical private sector Defined Benefit pension scheme

Normal Pension Age	65
Accrual Rate	1/60ths
Commutation factor	£12 of lump sum for every £1 of pension given up
Member contributions	5% of salary
Spouses pension	50% of member's pension
Pension increases	CPI (RPI alternative also used)
Death in service lump sum	4 x salary

On this basis, a typical Defined Benefit scheme in the private sector would have an average pension benefit value to public sector workers of 23% of a member's salary, assuming that the scheme benefits are linked to the Consumer Prices Index (CPI). Some private sector schemes still have benefits linked to the Retail Prices Index (RPI), and for a typical private sector Defined Benefit scheme linked to RPI the average value of the pension benefit to public sector workers would be 27% of a member's salary. (Table A7)

Table A7: Average Effective Employee Benefit Rate (EEBR) for a typical private sector Defined Benefit scheme, with different levels of indexation and revaluation

Typical private sector DB scheme with:	Average EEBR
CPI pension increases	23%
RPI pension increases	27%

Reconciliation of current analysis with PPI 2010 figures

The PPI last carried out EEBR modelling of public service pension schemes in in 2010.[74] In the 2010 paper, the average EEBR for post 2007/8 entrants to public service pension schemes was calculated assuming CPI indexation of pensions in payment and the revaluation of deferred pensions. Similar calculations were made for the current paper in 2012 as the basis of comparison for the Coalition Government's proposed reforms for these members.

The results calculated in 2012 are different from those which were calculated in 2010. This is largely due to differences in the assumptions used. Since 2010, the modelling assumptions used in PPI EEBR analysis have been updated. This is in part a general update to ensure current relevance of the results and in part to allow for the Government's new approach to setting the discount rate in line with average GDP growth. Table A8 provides a comparison of the different assumptions used in this calculation:

[74] PPI (2010)

Table A8: Assumptions used in current and previous PPI EEBR analysis

	2010	2012
CPI	1.9%	2.0%
Earnings growth	4.3%	4.75%
Discount Rate	5.3% (2.5% over RPI)	5.1% (3.0% over CPI)

In addition to the changes outlined above, the calculation and data were updated, changing the base year of the calculation from 2010 to 2012 and using updated membership distributional data for the schemes.

Each of the changes described here has the effect of increasing the average EEBR for post 2007/8 entrants in this paper relative to the 2010 figures. For example, the average EEBR of the NHS scheme is 18% of a scheme member's salary using the 2010 assumptions, compared with 22% of a scheme member's salary using the 2012 assumptions. Table A9 illustrates the composition of this increase.

Table A9: Breakdown of the change in average EEBR for post 2007/8 entrants to the NHS scheme between 2010 and 2012

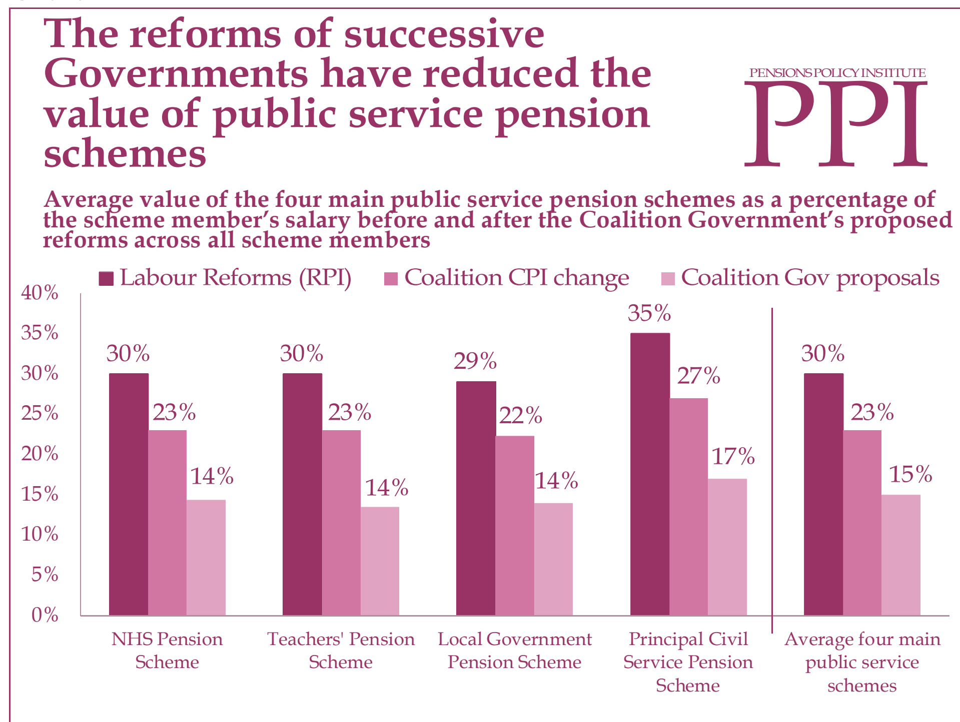
Average EEBR using 2010 data and assumptions	18%
Changes arising from updating calculation and data	*+0.5%*
Change arising from an increase in the earnings growth assumption	*+1.5%*
Change arising from a reduction in the discount rate	*+2.0%*
Average EEBR using 2012 data and assumptions	22%

Annex 3: The impact of the switch from RPI to CPI as the index used for revaluation and indexation of benefits

The previous Labour Government implemented reforms to the four largest public service pension schemes between 2007 and 2008. The reforms applied mainly to new entrants and maintained final salary benefits in the NHS and Teachers' pension schemes. The final salary link was also maintained for the Local Government Pension Scheme, although the reforms applied to all members. The contribution increases proposed under Labour's reforms also applied to both existing and new members.

The reforms in the Principal Civil Service Scheme introduced a new Nuvos section for new members with Career Average Revalued Earnings (CARE) benefits. Existing members in the Principal Civil Service Pension scheme at the time the reforms were introduced remained in the existing Classic and Premium sections, which provide final salary benefits. In all schemes, pension benefits were uprated in line with changes in the RPI. Under these reforms, the value of the pension benefit received across all members of the four largest schemes was around 28% of a member's salary, on average. (Chart A1).

Chart A1[75]



[75] PPI EEBR analysis using the scheme designs set out in the proposed final agreements for each scheme and summarised in in Annex 1. Methodology and assumptions for the EEBR are set out in Annex 2. Figures rounded to the nearest 1%. RPI is assumed to be 3.4%, CPI 2%.

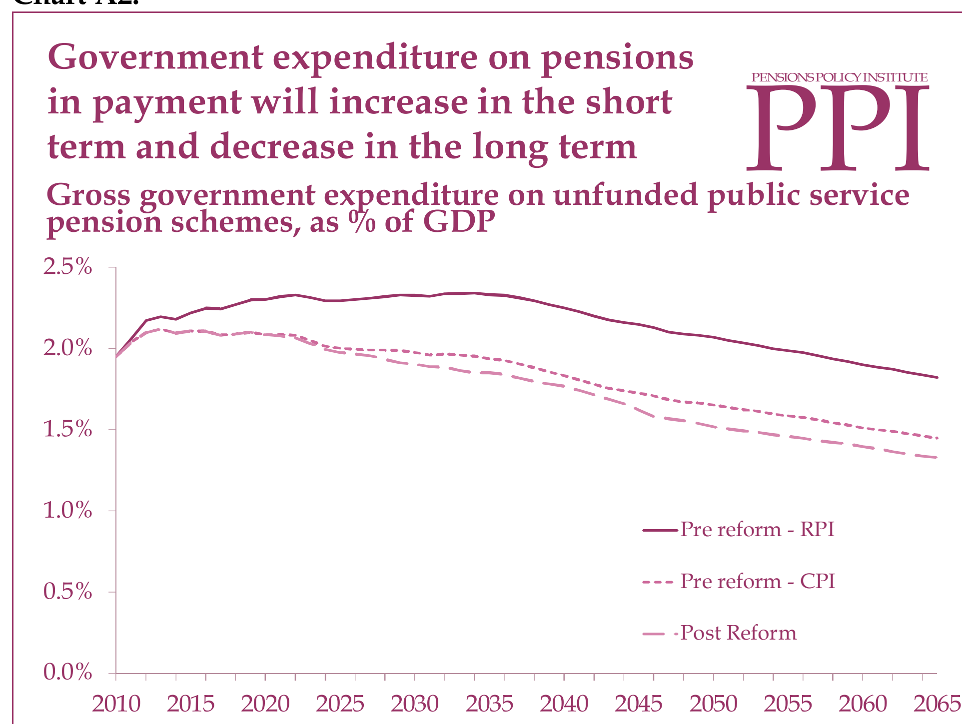
In June 2010, the Coalition Government changed the inflation measure used to uprate pension benefits from the RPI to the CPI. This reduced the value of the pension benefit received by members of the four largest schemes from around 28% of salary, on average, to around 23% of a member's salary.

The Coalition Government's proposed reforms, as set out in the Proposed Final Agreements, further reduce the value of the pension benefit received by members of the four largest schemes to around 15% of a member's salary, on average.

Effect of switching from RPI to CPI on government expenditure

Chart A2 displays the projected government expenditure on pensions in payment to members of the unfunded public service pension schemes under the scheme rules that were in place before the Coalition Government came to power in 2010 (based on the 2008 reforms and allowing for indexation in line with RPI). Under this scenario, pensions in payment would have been projected to rise from around 1.9% of GDP in 2010, to 2.4% of GDP by 2034, before falling to 1.8% of GDP by 2065. For comparison, the chart also includes the estimates of gross government expenditure using CPI indexation presented in Chapter 5 of this report.

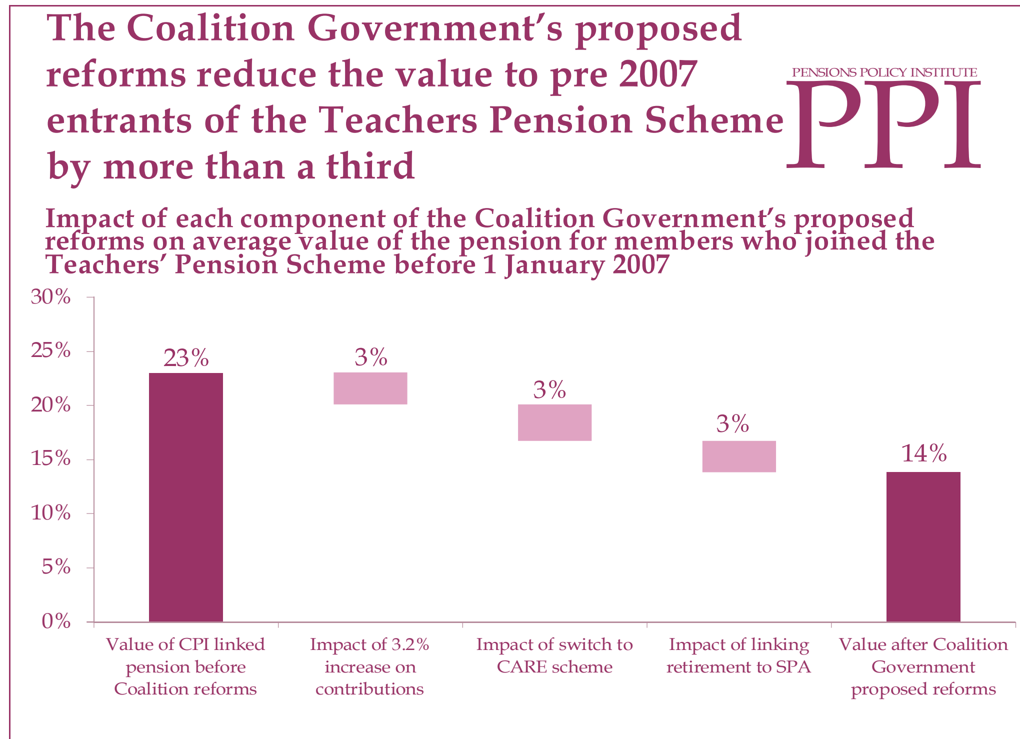
Chart A2:



Annex 4: Impact of the Coalition's proposed reforms on members of the Teachers' Pension Schemes

The impact of the Coalition's reforms on members of the Teachers' Pension Scheme who have joined the scheme before 1 January 2007

Chart A3[76]



The average value of the pension benefit offered to members who have joined the Teachers' Pension Scheme before 1 January 2007 reduces by more than a third under the Coalition Government's proposed reforms, from 23% of a teacher's salary before the proposed reforms with final salary benefits paid out from Age 60 and CPI indexation to 14% of a teacher's salary after the Coalition's proposed reforms are introduced.

The components of the Coalition's proposed reforms contribute to the total reduction in the average value of the pension benefit offered by the scheme. The increase in average member tiered contributions, under which higher earners pay higher contributions than lower earners, reduces the average value of the pension benefit offered by the scheme by 3% of salary.

The switch from a final salary scheme with an accrual rate of 1/80th and a lump sum of 3/80ths to the new Teachers' CARE scheme with an accrual rate of

[76] PPI EEBR analysis using scheme designs as set out in the proposed final agreement for the Teachers' Pension Scheme, summarised in Annex 1. Methodology and assumptions for the EEBR are set out in Annex 2. Figures rounded to the nearest 1%.

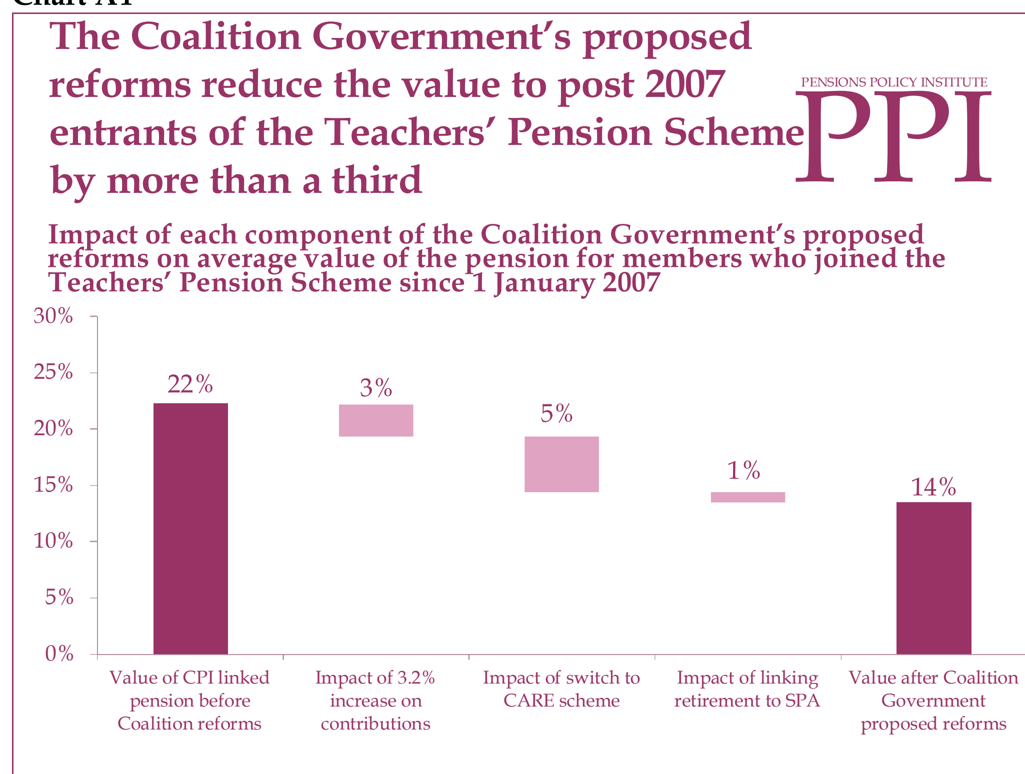
1/57th reduces the average value of the pension benefit being offered by the scheme by 3% of salary.

Linking the Normal Pension Age to the State Pension Age instead of having a NPA of Age 60 reduces the average value of the pension benefit by a further 3% of salary.

Nevertheless, even after the Coalition's proposed reforms the average value of the Teachers' Pension Scheme of 14% of a teacher's salary is still more valuable than an average Defined Contribution pension scheme that many workers in the private sector are offered, into which employers typically contribute around 7% of a DC scheme member's salary.

The impact of the Coalition's reforms on members of the Teachers' Pension Scheme who have joined the scheme since 1 January 2007

Chart A4[77]



The average value of the pension benefit offered to members who have joined the Teachers' Pension Scheme since 1 January 2007 reduces by more than a third under the Coalition Government's proposed reforms, from 22% of a teacher's salary before the proposed reforms with final salary benefits paid out from age 65 and CPI indexation to 14% of a teacher's salary after the proposed reforms are introduced.

[77] PPI EEBR analysis using scheme designs as set out in the proposed final agreement for the Teachers' Pension Scheme, summarised in Annex 1. Methodology and assumptions for the EEBR are set out in Annex 2. Figures rounded to the nearest 1%.

The components of the Coalition's proposed reforms contribute to the total reduction in the average value of the pension benefit offered by the scheme. The increase in average member tiered contributions, under which higher earners pay higher contributions than lower earners, reduces the average value of the pension benefit offered by the scheme by 3% of salary.

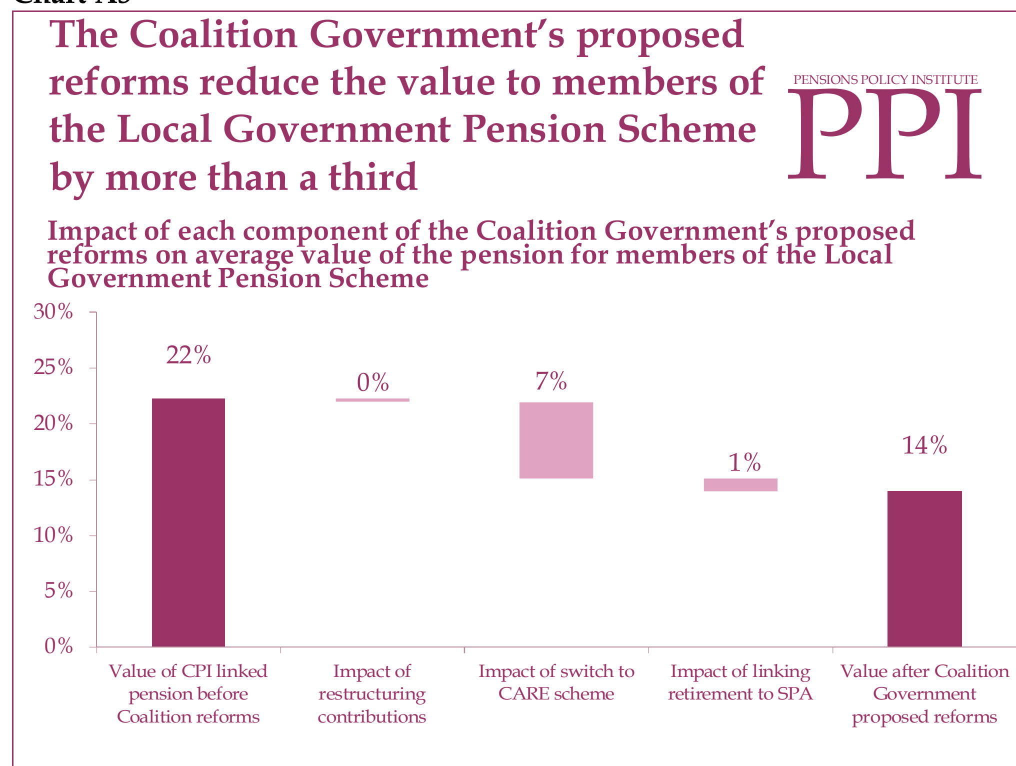
The switch from a final salary scheme with a 1/60th accrual rate to the new Teachers' CARE scheme with a 1/57th accrual rate reduces the average value of the pension benefit being offered by the scheme by 5% of salary.

Linking the Normal Pension Age to the State Pension Age rather than having an NPA of Age 65 reduces the average value of the pension benefit by a further 1% of salary.

Nevertheless, even after the Coalition's proposed reforms the average value of the Teachers' Pension Scheme of 14% of a teacher's salary is still more valuable than an average Defined Contribution pension scheme that many workers in the private sector are offered, into which employers typically contribute around 7% of a DC scheme member's salary.

Annex 5: The impact of the Coalition's proposed reforms on members of the Local Government Pension Scheme

Chart A5[78]



The average value of the pension benefit offered by the Local Government Pension Scheme reduces by more than a third under the Coalition Government's proposed reforms, from 22% of a Local Government worker's salary before the proposed reforms with final salary benefits and CPI indexation to 14% of a Local Government worker's salary after the proposed reforms are introduced.

As the 2008 reforms applied to all members of the LGPS including existing scheme members the date a member joined the LGPS scheme does not affect how they are impacted by the reforms.

The proposed reforms restructure the tiered contributions already in place in the scheme under the current rules. The contributions are increased for higher earners and reduced for some lower earners. The overall intention is to maintain the same average contribution rate. As a consequence, the restructuring of member contributions has almost no impact on the reduction in the average value of the pension benefit offered by the scheme.

[78] PPI EEBR analysis using scheme designs as set out in the LGPS 2014 proposals, summarised in Annex 1. Methodology and assumptions for the EEBR are set out in Annex 2. Figures rounded to the nearest 1%.

The switch from a final salary scheme with an accrual rate of 1/60th to the new LGPS CARE scheme with a 1/49th accrual rate reduces the average value of the scheme by 7% of salary.

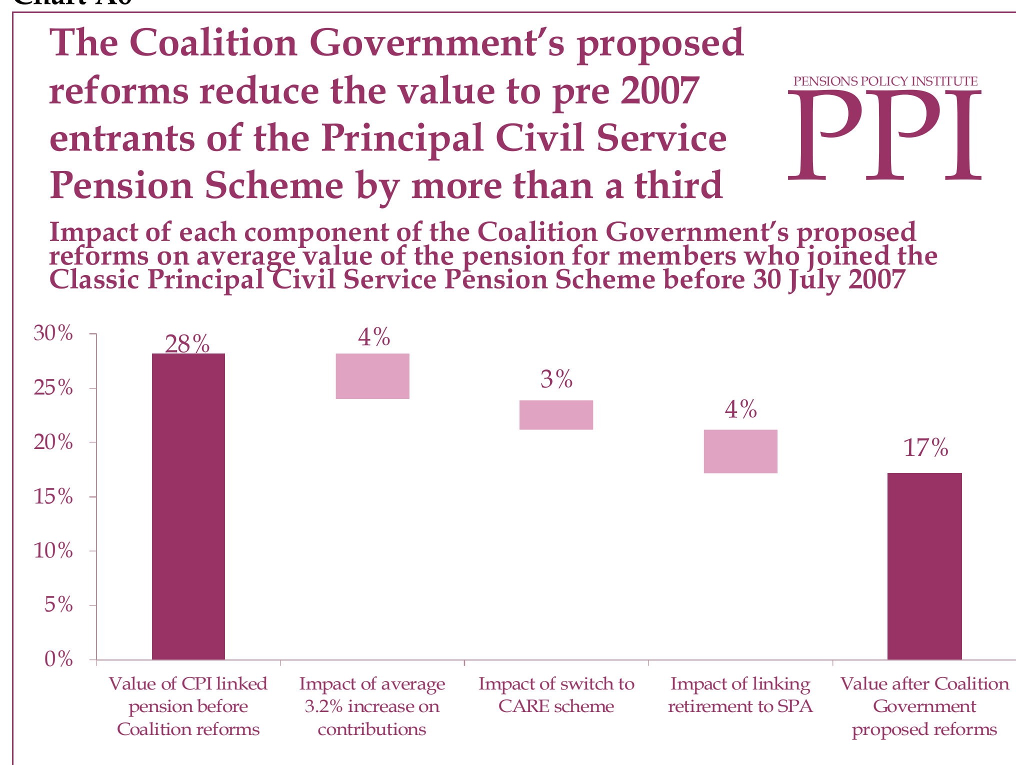
The linking of the Normal Pension Age to the State Pension Age instead of having an NPA of 65 reduces the average value of the pension benefit offered by the scheme by a further 1% of salary.

Nevertheless, even after the Coalition's proposed reforms the average value of the Local Government Pension Scheme of 14% of a Local Government worker's salary is still more valuable than an average Defined Contribution pension scheme that many workers in the private sector are offered, into which employers typically contribute around 7% of a DC scheme member's salary.

Annex 6: The impact of the Coalition's proposed reforms on members of the Principal Civil Service Pension Scheme

The impact of the Coalition's proposed reforms on members of the Principal Civil Service Pension Scheme who joined the scheme before 30 July 2007 and are in the Classic Final Salary section of the Scheme

Chart A6[79]



The analysis in the first part of this Annex considers the impact of the Coalition Government's proposed reforms on members of the Classic section of the Principal Civil Service Pension Scheme, which has final salary pension benefits and a membership of around 60% of all Civil Servants.

The Coalition Government's proposed reforms reduce the average value of the pension benefit offered by the Classic section of the Principal Civil Service Pension Scheme by more than a third, from 28% of a Civil Servant's salary before the proposed reforms with final salary benefits and CPI indexation to 17% of a Civil Servant's salary after the proposed reforms are introduced. (Chart A5)

[79] PPI EEBR analysis using scheme designs as set out in the proposed final agreements for the Principal Civil Service Pension Scheme, summarised in Annex 1. Methodology and assumptions for the EEBR are set out in Annex 2. Figures rounded to the nearest 1%.

The different components of the Coalition's proposed reforms contribute to the total reduction in the average value of the pension benefit offered by the scheme. The increase in average member tiered contributions, under which higher earners pay higher contributions than lower earners, reduces the average value of the pension benefit offered by the scheme by 4% of salary.

The switch from a final salary scheme with a 1/80th accrual rate and a 3/80th lump sum to the new Civil Service CARE scheme reduces the average value of the pension benefit being offered by the scheme by 3% of salary.

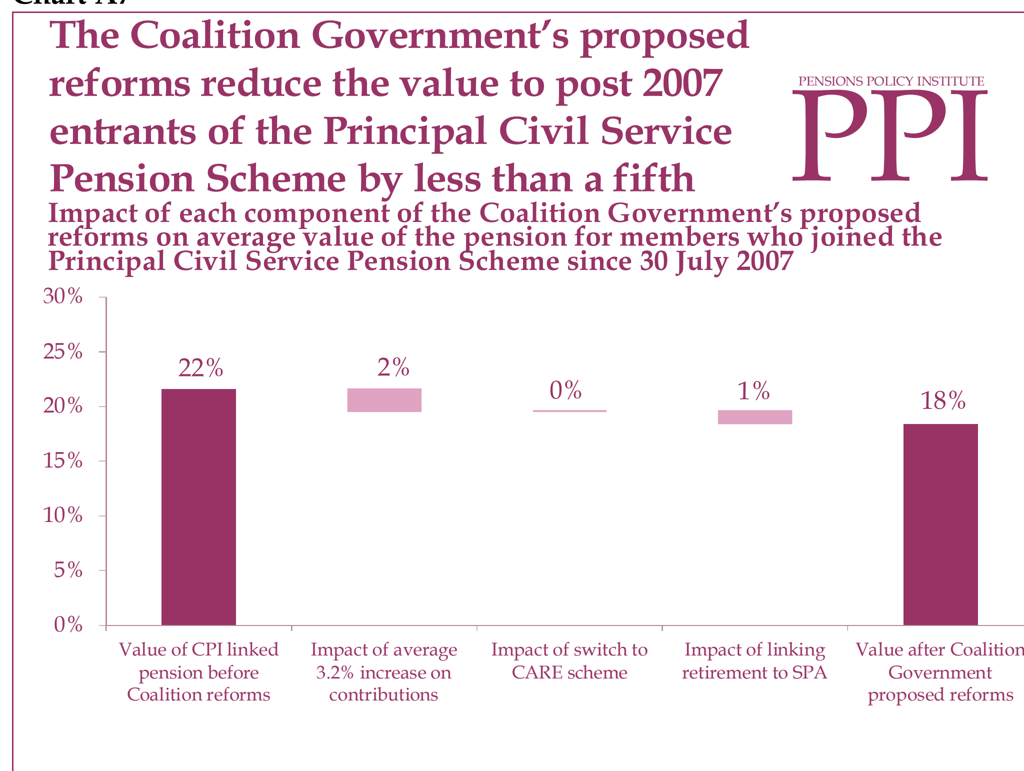
Linking the Normal Pension Age to the State Pension Age instead of having an NPA of Age 60 reduces the average value of the pension benefit by a further 4% of salary.

Nevertheless, even after the Coalition's proposed reforms the average value of the Classic section of the Principal Civil Service Pension Scheme of 17% of a Civil Servant's salary is still more valuable than an average Defined Contribution pension scheme that many workers in the private sector are offered, into which employers typically contribute around 7% of a DC scheme member's salary.

The impact of the reforms on members of the Career Average Nuvos section of the Principal Civil Service Pension Scheme for members who have joined the Civil Service scheme since 30 July 2007

Members of the Civil Service scheme who have joined the scheme since 30 July 2007 are offered membership in the Nuvos Section of the scheme, which has Career Average Revalued Earnings (CARE) benefits. The proposed reforms reduce the average value of the pension benefit offered to members of this section of the scheme from 22% of a Civil Servant's salary to 18%. (Chart A7)

Chart A7[80]



The increase in average member contributions reduces the average value of the pension benefit received by members of this section of the scheme by 2% of salary.

Given that this section of the scheme already has Career Average Revalued Earnings benefits, there is no impact in this regard under the Coalition Government's proposed reforms.

The linking of the Normal Pension Age to the State Pension Age instead of having an NPA of Age 65 reduces the average value by a further 1% of salary.

Overall members of the Career Average section of the Civil Service pension scheme are least affected by the Coalition's proposed reforms. This is largely because the scheme was already Career Average and already had an NPA of 65.

[80] PPI EEBR analysis using scheme designs as set out in the proposed final agreements for the Principal Civil Service Pension Scheme, summarised in Annex 1. Methodology and assumptions for the EEBR are set out in Annex 2. Figures rounded to the nearest 1%.

Annex 7: Comparing PPI and GAD estimates for the LGPS

Following the publication of the PPI EEBR analysis in October 2012, the PPI was made aware of analysis that had been carried out by the Government Actuary's Department (GAD) on the impact of the proposed changes to the financing costs of the LGPS.[81]

The GAD analysis found that the future cost of the LGPS to the employer after allowing for employee contributions is 15.2% of salary under the existing scheme and 13.0% of salary under the new scheme. This gives a difference of just over 2% of salary between the existing and new schemes.

The PPI calculated that the impact of the reforms on the LGPS would be to reduce the Average EEBR for the LGPS by around 8% of salary; from around 22% of salary to around 14%. This consists of a fall of 7% of salary from the redesign of the scheme benefits and a 1% of salary fall as a result of the linking of the NPA to reformed SPA.

The result is that the PPI figures project a fall in the value of the EEBR of around 8% in moving from the current LGPS pension scheme to the 2014 LGPS pension scheme, compared with a fall of around 2% in the employer cost according to GAD's calculations.

The proposed Government reforms to the LGPS

The main sources of the change in the value of the LGPS are:

- Redesign of the scheme benefits from Final Salary to CARE, which consists of:
- Removal of salary scale dependency.
- Revaluation in service up to retirement change from earnings inflation to CPI linked.
- Accrual increased from 60ths to 49ths.
- NPA linked to SPA.

Table A10 sets out the value of each step change.

Table A10: Breakdown of PPI's calculations of the LGPS EEBR

<table>
<tr><th colspan="2"></th><th>Value of change in EEBR</th><th>EEBR</th></tr>
<tr><td colspan="2">LGPS 2008 scheme</td><td></td><td>22%</td></tr>
<tr><td rowspan="3">Switch to CARE</td><td>Removal of salary scale</td><td>-3%</td><td>19%</td></tr>
<tr><td>Earnings inflation to CPI</td><td>-8%</td><td>11%</td></tr>
<tr><td>Accrual rate: 60ths to 49ths</td><td>+4%</td><td>15%</td></tr>
<tr><td colspan="2">Change in retirement Age to be SPA</td><td>-1%</td><td>14%</td></tr>
<tr><td colspan="2">LGPS 2014 scheme</td><td></td><td>14%</td></tr>
</table>

[81] GAD (2012)

Potential differences between PPI and GAD analysis

The GAD calculations reveal similar impacts as a result of the change in the accrual rate and the change in the retirement age. The main differences between PPI and GAD analyses arise in the estimated impact of the loss of the link between the employee's final salary and their pension. There are a number of reasons why PPI and GAD analyses may differ in this area:

- PPI and GAD may have different assumptions on average salary progression throughout an individual's career. PPI estimates are based on progression averaged across all public service pension schemes, as more nuanced data is not available to the PPI. GAD estimates are likely to be LGPS specific.
- PPI use OBR assumptions for average earnings growth, while GAD may have used a lower earnings assumption.
- Another cause of the difference may be the assumed probability of an employee to leave the scheme before retirement. PPI estimates are based on withdrawals averaged across all public service pension schemes, as more nuanced data is not available to the PPI. GAD estimates are likely to be LGPS specific.

This highlights the sensitivity of outcomes to the assumptions used. The actual outcomes in the LGPS will be highly dependent on actual earnings experience.

Annex 8: Choice of discount rate in EEBR calculations

In order to calculate the value of the pension benefit available to members of the public service schemes the PPI has calculated the Effective Employee Benefit Rate (EEBR) of the four largest public service pension schemes. The EEBR takes account of the main characteristics of the public service pension schemes such as whether the pension benefit is linked to final salary or career average salary, the accrual rate and indexation arrangements and the extent of member contributions that are required.

In order to compare the value of pension schemes that pay out benefits over different timescales, future pension payments are discounted back to a present value. This requires the use of a discount rate assumption. The rate used by the PPI is based on the outcome of the public consultation exercise carried out by the Government in 2010.[82] The rate is one which approximates the expected return on the assets which underpin the public service pension schemes. In the case of unfunded public sector pension schemes, the assets which effectively pay for the future pensions of public service workers are expected future tax revenues. As tax revenues are linked to the growth rate of the economy as a whole, the Government adopted an approach to the discount rate which approximates expected GDP growth. The Government's latest estimate for the discount rate on this basis is CPI + 3%.

The EEBR analysis in this paper to assess the value of the pension benefit to public sector employees after the Government's reforms uses a discount rate of CPI + 3%. This approach ensures that the discount rate used in valuing the public service pension schemes in the research is consistent with the rate that is used to set employer and employee contribution rates in the public service pension schemes in reality. The PPI's approach to setting the discount rate for this project was reviewed and agreed by the PPI's methodological advisory group which had a broad membership including representatives from actuarial firms, unions, public service pension funds, academics, PPI Council and the Government.

The calculation for the private sector defined benefit comparator scheme also uses a discount rate of CPI + 3% in order to make a consistent comparison. We are estimating the value of the scheme to a public sector worker if they were to be offered a final salary defined benefit pension scheme in the public sector that had similar scheme characteristics to the defined benefit schemes most commonly offered in the private sector.

[82] See HMT (2011) *Consultation on discount rate used to set unfunded public service pension contributions: Summary of responses* for further details. The PPI submission to the consultation, which recommended the approach adopted, can be downloaded from www.pensionspolicyinstitute.org.uk/uploadeddocuments/Responses/20110303_PPI_Consultation_response_on_public_sector_pensions_SCAPE_discount_rate_FINAL.pdf

The Actuarial Profession has recently published a framework for the use of discount rates in actuarial work.[83] This sets out two different approaches to valuations and considers which discount rates are appropriate under each approach.

- **Budgeting calculations**
  Under the budgeting approach, calculations are made from the viewpoint of how the liability is going to be financed. These calculations are said by the Actuarial Profession to arise "where a long-term series of future cash flows needs to be met and resources are accumulated to pay for them". For a funded scheme budgeting calculations would use a discount rate based on the assets backing the scheme, whereas for an unfunded government scheme this would be based on source of the financing, i.e. the growth in the level of tax revenues.

- **Matching calculations**
  Under the matching approach, the discount rate is based on the implicit yield of a portfolio of assets which is designed to replicate the cashflows of the liability. The matching approach aims to identify the amount that would have to be spent in a one off payment now in order to buy assets that would exactly cover all promises made. It may be considered that a portfolio of government bonds provides the closest match to public sector pension scheme liabilities; so under a matching approach the discount rate may be based on the yield on government bonds.

The EEBR estimates made in this analysis reflect a budgeting approach, where a series of financing payments are made in the short-term in order to finance a future series of outgoing payments financed by tax revenues. Therefore, the appropriate discount rate to use is the assumed growth in GDP, because it is representative of the source of the money to be used to finance the pensions.

[83] The Actuarial Profession (2012)

Annex 9: Expenditure projections for the unfunded public service schemes

Introduction

As part of an on-going development of the PPI modelling suite funded by the Nuffield Foundation, PPI's Aggregate Model (AM) has been adapted to produce expenditure projections for each of the main public service schemes.

The results of this work are presented in chapter 5 of this report. The purpose of this annex is to briefly describe the scope of the project and the methodology used. In addition to this, the results are compared to recent projections produced by the Government Actuary's Department (GAD) for the Office for Budget Responsibility (OBR) in their *Fiscal Sustainability Report* (OBR 2012).

Schemes and outputs

Rather than model each scheme individually, nine aggregated schemes have been used, following the separation used in the Whole of Government Accounts 2011 (WGA):

- NHS (UK)
- Teachers (UK)
- Civil Service
- Armed Forces
- Police
- Fire-fighters
- Other unfunded
- Local Government
- Other funded

The main outputs for each scheme are the benefit payments and member contributions calculated for each cohort of scheme members.

Base year data and assumptions

Due to the availability of data, the base year was chosen to be the 2010-11 tax year. The inputs to the AM which inform the starting point of the projection can be considered in three main parts.

Work force earnings distribution

As detailed membership data was unavailable, the earnings distribution by gender and age of active members was approximated using summary data used by the PPI in analysis for the project *The future of public sector pensions* (2010).

Distribution of liabilities not in payment

In order to take account of accruals that are not yet in payment, the levels of scheme liabilities in respect of active and deferred members are required. These were taken from the WGA and adjusted in line with the scheme resource accounts to remove the liabilities relating to pensions in payment. The WGA

was used as a starting point for this calculation as resource accounts are not available for all schemes and do not always directly correspond to the division of schemes used in the model.

The locally administered schemes do not produce accounts on a consolidated basis, so to remove liabilities relating to pensions in payment for these schemes, a multiplier of 0.7 was applied to the WGA liability figures, in line with the previous PPI modelling assumption. The exception to this is the LGPS, where the 2010 scheme valuations were used to inform the assumption.

The scheme liabilities are then proportionally assigned to each cohort in the workforce using a calculation based on historical contributions into funded DB schemes and workforce estimates based on ONS statistics. This method has been used to inform PPI modelling in the past, but is an approximation necessary due to the unavailability of scheme data.

Distribution of pensions in payment

The aggregate levels of benefit payments for each scheme were obtained from the relevant scheme resource accounts, or, for the locally administered schemes, government statistics publications. Adjustments were then performed to allow for schemes not covered in the accounts/data, for example the Northern Ireland schemes.

The payments were split by age and gender using estimates informed by analysis of the Family Resources Survey 2010/11 and, where applicable, any information available in the most recent scheme valuations.

Projection Methodology

The earnings distribution for each scheme is projected by the AM in line with deterministic earnings growth assumptions and assumptions regarding future changes in the composition of the workforce. This is used to calculate future benefit accrual of scheme members and member contributions.

Past accruals relating to each cohort are projected using an investment return assumption based on that used to calculate the original liability figure. Using this approach, when a cohort (or part of a cohort) reaches retirement, the liabilities relating to members of their age are converted into an annual pension (with allowance made for lump sums). Payments are then projected in line with deterministic assumptions for the relevant price index and mortality rates.

The demographic and financial assumptions used in the projection are consistent with those used in the calculation of the Effective Employee Benefit Rates for each scheme, outlined in Annex 2. There were two main additional assumptions required, GDP growth and growth of the public sector workforce. These were consistent with the assumptions used in OBR's Fiscal Sustainability Report 2012.

Comparison with Office for Budget Responsibility projections
The results presented in chapter 5 for the unfunded public sector schemes were produced on a similar basis to those published in OBR (2012). In particular, the projections cover the same schemes and use the same economic and demographic assumptions. However, due to the complex nature of the projections it is inevitable that the results are not identical.

This section provides a comparison of the results followed by an outline some of the key differences in the data and methodology used by the PPI and OBR based upon information published in FSR 2012.

Chart A8

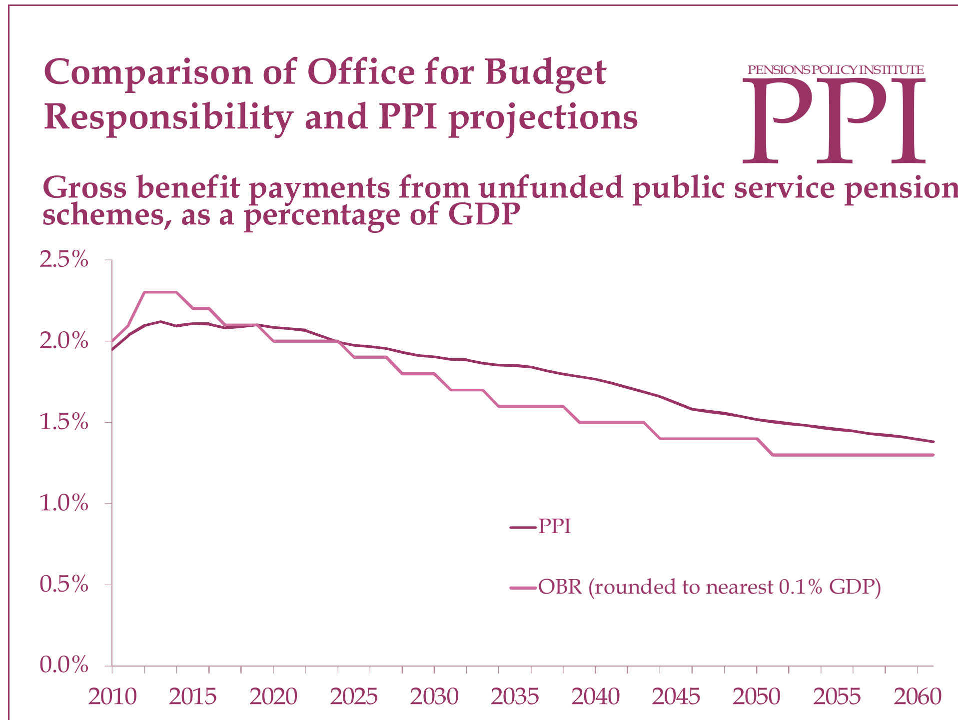


Chart A8 compares the PPI projection of gross government expenditure on the unfunded schemes in the 'post-reform' scenario against the corresponding OBR projection. Note that the OBR figures used are those published accompanying the report, which were rounded to the nearest 0.1% of GDP.

Chart A8 shows that the PPI and OBR projections start at the same level (note that the OBR figure has been rounded up) and end within 0.1% of GDP of one another. The PPI projection, however, has a flatter trajectory, peaking at around 0.2% of GDP below the OBR projection between 2010 and 2015, but decreasing more slowly beyond this point. The maximum difference between the two projections is 0.3% of GDP in the mid-2030s.

Membership data
The PPI does not have access to detailed membership data, so has produced a number of approximations based upon publicly available information and

summarised data. The main areas where these approximations are required were outlined in the base year data and assumptions section of this annex:

- The distribution of accrued pensions not yet in payment, by age and gender.
- The base year earnings distribution of active members by age and gender, affecting the calculation of future accrual.
- The distribution of pensions currently in payment by age and gender.

The difference between the approximations used by the PPI and the data used to inform the OBR projections will lead to differences in the level and timing of benefit payments. For example, it is possible that the PPI's approximated distribution of scheme liabilities relating to past accrual attributes less entitlement to older scheme members relative to the OBR distribution. As the aggregate liability figures should be the same, this will lead to a corresponding increase in the entitlement attributable to younger members, which could explain why the PPI projection sees lower payments made in early years, followed by higher payments later on.

Methodology differences

The model in this project has been designed to be consistent with the existing PPI modelling suite, whilst making the best use of the data available to the PPI. It is, therefore, likely that a variety of different modelling techniques and simplifying assumptions have been used in the PPI work to those employed in producing the OBR projections. An example of this is that the PPI projections are based upon their own labour market projection, which may lead to differences in the projected age and gender distribution of scheme members.

It is not clear what the effect of this is without a detailed comparison of the models used. There are, however, a few differences in the modelling apparent from the information published in OBR (2012):

- In the OBR projections, the post-reform schemes are modelled using the Government's preferred scheme design outlined in the HMT publication *Public Service Pensions: good pensions that last* (2011) i.e. a scheme based upon an accrual rate of 1/60th, with pensions in deferment indexed to average earnings growth. The PPI projections model each scheme separately using the Proposed Final Agreements.
- The OBR projection explicitly includes a 1% reduction in pensionable pay to represent an increase in member opt-out in response to contribution rate increases. PPI modelling does not assume any change in opt-out rates in the baseline scenario, instead varying the opt-out rate as a sensitivity analysis. This has been achieved by changing pensionable pay by ±12% to reflect an estimated ±10% change in take-up by public service employees.
- The starting point of the OBR projections (as produced by GAD) is the schemes' 2007/08 resource accounts. OBR have increased payments in the GAD projection by a fixed cash amount of £3.4bn throughout the projection, to reflect more recent scheme experience of pension and lump sum payments. This differs from the PPI approach, where initial benefit

payment estimates are calibrated to be consistent with the 2010/11 scheme resource accounts.

- The OBR projection includes payments from the Royal Mail Statutory Pension Scheme from 2012/13 onwards, the PPI projection does not.

Annex 10: Role of the Methodological Review Group

As part of the quality assurance process for this project, the PPI set up a Methodological Review Group to provide advice on the modelling that was used in this report. The main role of the group was to provide feedback on the assumptions used for the PPI's modelling of the public sector pension schemes. The PPI is grateful to the Members of the Methodological Review Group for their valuable feedback for the analysis of this report.

Members of the Methodological Review Group provided advice in an individual capacity and not as representatives of their respective organisations. Membership of the Review Group does not imply agreement with the analysis or the findings of this report. The PPI takes full responsibility for the final analysis in this report.

The following is a list of the members of the Methodological Review Group:

Richard Brown	(HM Treasury)
Alice Hood	(Trades Union Congress)
Chris Morley	(Government Actuary Department)
Joe Robins	(Office for Budget Responsibility)
Mike Taylor	(London Pensions Fund Authority)
Gemma Tetlow	(Institute for Fiscal Studies)
John Wright	(Hymans Robertson)
Andrew Young	(PPI Council Member)

Acknowledgements and Contact Details

The Pensions Policy Institute is grateful for input from many people in support of this paper, in particular members of the Methodological Review Board and:

Melissa Echalier	Michael Pommery CVO	David Yeandle
Maritha Lightbourne	Annalisa Stoddart	
Jemma Metcalf	Peter Thompson	

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

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.

This report uses outputs from the PPI's Suite of Models that have been developed under grants from the Nuffield Foundation.

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

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The PPI is grateful for the continuing support of its Platinum & Gold Supporting Members:

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

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Published by
PENSIONS POLICY INSTITUTE

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www.pensionspolicyinstitute.org.uk
ISBN 978-1-906284-25-1