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An assessment of the
Government's reforms to
public sector pensions

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Introduction

The public sector employers and unions have been discussing reform proposals to all major public sector pension schemes since 2002. The implementation of the final set of reforms has once again focused attention on the public sector pension schemes.

Longer retirements are increasing the cost of all pension provision. The main plank of the Government's public sector pension reforms – an increase in the normal pension age from 60 to 65 for new entrants to the main schemes – has been seen as a way to improve the schemes' affordability and sustainability and to reflect the practice of the majority of private sector schemes. However, the reforms have been controversial, with the public sector unions resisting uncompensated reductions to the value of their members' pensions and others in the private sector questioning whether the reforms have gone far enough.

After introducing the main features of the public sector pension schemes in Chapter 1, this paper analyses to what extent the reforms will:

- Redirect resources to finance greater flexibility and benefit improvements for public sector employees.
- Improve the financial sustainability of public sector pension schemes.
- Reflect the practice in the majority of private sector pension schemes.

Since it is often argued that public sector pensions make up for lower pay in the public sector, a final chapter summarises the evidence on differences in pay between the private and public sectors.

This discussion paper has been prepared to give factual background to the important political debate now taking place on reforming public sector schemes. No judgement on the merit or otherwise of the scheme benefits, or the reforms, is intended. The paper forms the background for a seminar to be held in October 2008.

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Summary of conclusions

The Government announced reform of the public sector pension schemes in 2002. Most contentiously, the final set of reforms include an increase in the Normal Pension Age (NPA) from 60 to 65 for new entrants to the NHS, Civil Service and Teachers' schemes. Existing members of the schemes have retained an NPA of 60. The reforms also include benefit improvements, reforms to ill-health and flexible retirement benefits, and a new cost sharing agreement between public sector employers and individual members of the schemes.

Despite the reduction in benefits for new entrants to the public sector pension schemes, the Government argued that increasing the NPA would:

- Redirect resources to finance greater flexibility and benefit improvements for public sector employees.
- Improve the financial sustainability of public sector pension schemes.
- Reflect the practice in the majority of private sector pension schemes.

This paper considers to what extent the reforms have met these aims.

What will be the impact of the reforms on public sector employees?

Public sector schemes are pension schemes run and paid for by the Government for the benefit of public sector employees and are an important part of the remuneration package for the five million public sector employees who are members of them.

The Government's reforms have reduced the average value of public sector pension schemes by around 3% of salary for new entrants, from 24% to 21%. The precise effects of the reforms, however, vary from scheme to scheme and for individual members of the public sector schemes.

The reforms have reduced the average value of the four main public sector pension schemes (for the NHS, Civil Service, Teachers and Local Government) by around 3% of salary for new entrants, from 23% to 20%. Around half of the impact of rising the normal pension age has been offset by improvements in pension accrual rates. The reforms are likely to have less impact for existing members who retain a normal pension age of 60.

The schemes for the Armed Forces, Police and Fire have fewer members than the four main schemes. The reforms to the Armed Forces, Police and Fire schemes have reduced their average value by around 4% of salary for new entrants, from 37% to 33%. For long-serving members of the schemes, the reduction in value can be more significant. Members of these schemes can have an NPA of 55 or 60 provided that they remain in these schemes until retirement, but in future will have their NPA increased to 65 if they leave the scheme early.

Will the reforms improve the financial sustainability of the schemes?

Public sector pensions are projected to grow more quickly over the next twenty years than any other area of state spending for which long-term projections are available. Over this period, spending on unfunded public sector pensions is projected to grow from 1.0% of GDP to 1.4% of GDP in 2027/8, after allowing for the savings from the recent reforms. This is an increase of 40%, which compares to an increase of 17% for long-term care, 16% for health and 14% for state pensions over the same period. In 2027/8, state spending on public sector pensions will, however, still be lower in absolute terms than state spending on health, education and state pensions.

The savings from the reforms are likely to be relatively modest. Over the next 50 years, the Government expects the reforms to save a total of £13 billion in the NHS, Civil Service and Teachers' schemes. This compares to the total amount contributed by public sector employers to these three schemes of around £10 billion every year. The reforms to the Local Government scheme could save taxpayers £340 million a year, a 7% reduction. No data are available for the Armed Forces, Police and Fire schemes.

Cost sharing and cost capping agreements have been made in the NHS, Civil Service and Teachers' schemes, and Local Government is expected to follow. These agreements mean that unanticipated future increases in costs will be shared between public sector employers and the members of the schemes, rather than passed automatically onto public sector employers, as was the former situation. The agreements could limit employer contributions in future, particularly as employer contributions will be subject to an overall cap. For example, if estimates of life expectancy increase by 1 year more than expected, this could cost employers in these schemes an extra £200 million a year in the absence of the cost sharing and cost capping agreements. Now the extra costs may be met almost entirely by the members of these schemes.

Will the reforms close the gap between public and private sector pension provision?

Public sector employees are more than twice as likely to be a member of an employer-sponsored pension scheme as private sector employees: around 85% of public sector employees are members of a scheme, compared to only 40% of private sector employees. Most of the members of public sector schemes have a Defined Benefit scheme, but only around 15% of private sector employees are active members of a Defined Benefit scheme.

The value of the four main public sector schemes (for the NHS, Civil Service, Teachers and Local Government) for new entrants will be similar to a medium private sector Defined Benefit scheme, at around 20% of salary on average. The average value of a private sector Defined Contribution scheme is around 7% of salary, however, which is significantly lower than the value of the reformed public sector schemes.

The schemes for the Armed Forces, Police and Fire are worth on average 33% of salary for new entrants. They remain more valuable than medium private sector Defined Benefit scheme and are significantly more valuable than private sector Defined Contribution schemes. If the shift from DB to DC continues in the private sector, and contribution rates in DC schemes do not increase, the difference between the average pension provision of public and private sector employees may continue to grow.

Taking account of both the higher coverage of pensions in the public sector and the value of pensions in the public and private sectors, significantly more is contributed each year to pensions in the public sector than in the private sector. Employers contribute around £4,000 per year per employee in the public sector, compared to £1,600 per employee in the private sector. However, employees in the public sector also contribute more than their counterparts in the private sector.

Do public sector pensions make up for lower pay?

It is often assumed that better pensions in the public sector make up for lower pay. Although a job-for-job type comparison of pay is difficult to make between the private and public sectors, women and low-skilled male workers seem to be paid relatively more on average in the public than the private sector. High-skilled male workers are paid more in the private than the public sector.

The problem of lower paid employees having no employer-sponsored pension provision is less acute in the public than the private sector. For example, around 20% of private sector employees who earn between £100 and £200 a week are members of an employer-sponsored pension scheme, compared to around 70% of similarly paid public sector employees.

Chapter 1: Why reform public sector pensions?

What are public sector pension schemes?

Public sector schemes are pension schemes run and paid for by the Government for the benefit of public sector employees. The vast majority of members are in the seven main schemes, which have a combined active membership of around 5 million people (Chart 1).

Chart 1²



There are a number of much smaller schemes. The schemes for MPs, the Judiciary, Research Councils and the UK Atomic Energy Authority have a combined active membership of around 24,000 people.³ There are also 'quasi-public' sector schemes, where the Government owns all of or part of the sponsoring company or corporation (such as the Civil Aviation Authority Scheme or the BBC Scheme), or where the Government has underwritten part or all of the benefits (such as the British Coal Pension Scheme). Such schemes have a combined active membership of around 345,000 people.⁴

¹ 'Active members' are those members who are building up new benefits in the scheme

² House of Commons Scrutiny Unit (2007) Table 1, CLG (2007) Table 7.2e. Figures for the Teachers' scheme are for England and Wales only. Figures for the Local Government scheme are for England only.

³ Figures from individual scheme accounts for 31 March 2006

⁴ PPI (2005) page 40

This paper concentrates on the seven main schemes in Chart 1. Unless otherwise stated, this paper refers to the England and Wales schemes; some of the schemes run as separate entities in Scotland and Northern Ireland.⁵

Six out of the seven main public sector pension schemes are unfunded

The seven main public sector schemes are unfunded, with the exception of the Local Government scheme. This means that pension benefits are met by current government income as and when they fall due. In contrast, all registered⁶ occupational pension schemes in the private sector are funded, which means that scheme members' pension rights should be covered by assets held under trust.

Public sector employers who offer an unfunded public sector pension scheme for some of their employees pay contributions to a sponsoring government department as if the scheme were funded. Under this system, known as SCAPE (Superannuation Contributions Adjusted for Past Experience), employer contributions form part of the employer's annual budget. The sponsoring government department pays out pensions to retired pension scheme members, netting off the employer and member contributions received.

The main public sector schemes are also:

- **Statutory.** This means that they were established and are reformed through Acts of Parliament.⁷ Private sector schemes can be amended by the trustees or closed down by the sponsoring company.
- **Nearly⁸ all Defined Benefit.** This means that the rules of the schemes set out a formula for the level of benefits that the scheme will provide for members. This contrasts with Defined Contribution schemes, where scheme members and employers pay contributions that are invested and the level of benefits depends on the size of a member's fund at retirement.

In the private sector, only around 38% of Defined Benefit schemes are still open for new entrants.⁹ Larger Defined Benefit schemes are more likely than smaller Defined Benefit schemes to be open to new entrants, so that almost half (47%) of active members of private sector Defined Benefit schemes are in schemes that are still open to new entrants.¹⁰ With fewer

⁵ These are the Teachers', NHS and Local Government schemes

⁶ 'Registered' means that the scheme can qualify for tax advantages

⁷ All of the main public sector pension schemes can now be amended by secondary legislation. Prior to 2005, amending the Armed Forces scheme required Acts of Parliament, which is more onerous procedure.

⁸ There are some public sector Defined Contribution schemes such as the Partnership section of the Civil Service scheme, but these have a very small membership

⁹ Figure for 2007. TPR and PPF (2007) page 31. Estimates vary; for example, ONS (2008) Figure 2.6 suggests that only around 20% of private sector Defined Benefit schemes with a single section were open to new entrants in 2007, but response rates were relatively low for the smaller schemes. Single section schemes accounted for almost all (98%) of private sector schemes.

¹⁰ Figure for 2007. ONS (2008) page 16

Defined Benefit schemes being set up in the private sector,¹¹ the number of active members of private sector Defined Benefit schemes is nevertheless likely to continue to fall in future if current trends continue. The number of active members of private sector occupational Defined Contribution schemes has remained relatively constant in recent years.¹² There has, however, been a growth in the number of people in employer-sponsored personal pensions.¹³

- **Multi-employer schemes.** The NHS, Civil Service, Teachers', and Armed Forces schemes are all single schemes that are administered nationally. In each case, there are several employers (for example, individual NHS Trusts or Government Departments) that contribute to the same scheme. The Local Government, Police and Fire schemes are administered by local authorities. For example, there are 89 separate Local Government schemes in England and Wales. Although central government is responsible for the regulatory framework that applies across all of these schemes, the individual schemes are administered, managed and funded at a local authority level.

A single place of work in the public sector could contain employees in several different public sector pension schemes. For example, teachers in the Teachers' scheme work alongside teaching assistants in the Local Government scheme.

- **Operate a policy of auto enrolment.** This means that eligible employees in the public sector are automatically members of a pension scheme, unless they actively decide to opt out. The Pensions Bill currently being scrutinised by Parliament would require all employers, in both the private and the public sector, to enrol automatically most employees¹⁴ into a private pension scheme from 2012.

Why reform?

The 2002 Green Paper¹⁵ announced the Government's intention to reform the public sector pension schemes. The final proposals were a package that contained some benefit improvements but also – most contentiously – an increase in the Normal Pension Age (NPA) from 60 to 65 for new entrants to the NHS, Civil Service and Teachers' schemes. Existing members of the schemes have retained an NPA of 60.

The NPA is the earliest age at which members can retire on a full pension from their occupational pension scheme. It is often misinterpreted as a compulsory retirement age. However, members can choose to retire before their NPA, with a reduced pension from the scheme, or after NPA. Before the reforms, the

¹¹ PPI (2007) page 21

¹² ONS (2008) page 16. There was a decline between 1995 and 2007 from 1.1m to 0.9m.

¹³ DWP (2008 IA) Figure F.2

¹⁴ Jobholders aged between 22 and state pension age and earning more than around £5,000 a year

¹⁵ DWP (2002)

average retirement age in the NHS, Civil Service and Teachers' schemes was 62,¹⁶ suggesting that in some areas there was demand from members to work longer than their current NPA of 60. State pensions are payable from the state pension age¹⁷, which is not necessarily related to the normal pension age of an occupational pension scheme.

Despite the reduction in benefits for future entrants to the public sector pension schemes, several arguments pointed in favour of increasing the NPA. The Government saw the policy as consistent with its policy of extending working lives as a response to the social and demographic pressures resulting from an ageing population.¹⁸ More specifically, it argued that increasing the NPA would:¹⁹

- *Help the financial sustainability of public service pension schemes [by helping] to offset the cost of increased longevity.*
- *Redirect resources to finance greater flexibility - particularly in the transition from work to retirement – and to offer improvements to benefits which employers and staff value and will have positive impact on staff recruitment and retention.*
- *Reflect... the practice in the majority of private sector pension schemes.*

The Green Paper stated that the increase in NPA to 65 would be introduced for all new members of the NHS, Civil Service and Teachers' schemes, and that it would *consult on how and to what timescale the higher pension age and any associated benefit enhancements could be extended to existing employees, while protecting rights already accrued.* After extensive negotiations between public sector employers and unions, existing members of the public sector pension schemes have been allowed to retain their existing NPA of 60 for the pension entitlements they build up in the future. The Government has stated that taxpayer spending has not increased as a result of this concession for existing members, since the proposed increases in benefits have been reduced to stay within the original cost envelope.²⁰

The situation differs for the other schemes. The Local Government scheme has always had an NPA of 65, but a special provision called the 'Rule of 85' allowed members of the scheme to retire with an unreduced pension from age 60²¹ provided that the member's age and years of service added up to at least 85. This meant, for example, that someone with 25 years' service could retire with an immediate pension at age 60. This rule was set to be abolished in April 2005. In March 2005, however, the Government withdrew the legislation in the face of planned union strikes. The rule was finally abolished in October 2006, for future accrual and with transitional protection for older members.

¹⁶ Average for the NHS, Teachers' and Civil Service schemes. HMT figure, quoted in PPI Briefing Note 25.

¹⁷ Currently 60 for women and 65 for men, and due to rise in steps to 68 by 2046 for both men and women

¹⁸ DWP (2002) page 106

¹⁹ PPI summary of the aims in DWP (2002) p106-7, listed in no particular order. Text in italics is a quotation.

²⁰ Evidence given to the Treasury Select Committee on 8 December 2005 by the then Chancellor of the Exchequer Gordon Brown

²¹ Or from age 50 with employer consent

Normal pension ages were lower in the uniformed services schemes (Armed Forces, Police and Fire) than in the other schemes, at around age 55²². This was intended to reflect the physical demands of these roles. Longer serving members of the Police and Fire schemes could retire on an unreduced pension earlier, from age 50.²³ The Government considered in the Green Paper that *there will continue to be some occupations such as the armed forces, fire service and police where the need for a recognised physical capacity justifies the award of normal pension at a lower age*. It has, however, abolished the special provisions that used to exist for long-serving members of the uniformed services schemes and increased NPA to 65 for members who leave employment in the uniformed services early.

The aims of reform differed between the schemes

While the proposal to increase NPA to 65 was announced in a DWP Green Paper, the detailed reform packages were negotiated separately for each of the individual schemes. The Government departments that sponsor the individual schemes saw a wider range of reasons for reforms than were included in the Green Paper. These included the need to:²⁴

- Reduce costs for public sector employers. For example, the Civil Service scheme consultation document pointed to additional costs arising from *improvements in life expectancy*.
- Manage an ageing workforce. For example, the Local Government scheme consultation document argued that *employers must recognise the challenges faced by an ageing workforce in an ageing society. Employees must be given the opportunity to continue to be economically active for longer*.
- Increase the attractiveness of scheme to employees. For example, the consultation document for the NHS scheme pointed to *ensure scheme helps the NHS recruit and retain staff and encourages staff to return, particularly staff among older age groups*.
- React to changes in the workforce. For example, the NHS scheme pointed out that *today's workforce is 80% female, around half of whom work part time*. The number of part-time employees in the Local Government scheme has also risen dramatically.
- Comply with, and allow employees to take advantage of, wider legislative changes. The Civil Service scheme, for example, pointed to age discrimination requirements, the April 2006 tax simplifications and civil partnerships.
- React to wider public service reform. This included a change to a more performance-based pay culture, and the expansion of the NHS workforce that has contributed to an increase in the number of active members of the scheme by around one-third between 1999 and 2004.²⁵

²² 57 or 60 for higher ranks in the Police scheme

²³ The earliest possible age was 48.5 in the Police scheme

²⁴ Cabinet Office (2004), DES (2004), Home Office (2003), NHS Employers (2005), ODPM (2004), ODPM (2004 FPS)

²⁵ GAD (2007) paragraph 4.10

Given the different starting points of the schemes, together with their different aims and workforces, it is not surprising that there are some differences in the final sets of reforms for each scheme. The reforms are summarised in Table 1 for ease of reference. They will be described more fully in the following chapters, but some broad similarities are evident. Besides the increase in NPA, these are:

- Member contribution rates²⁶ have increased in most of the schemes. Some of the schemes have introduced tiered contribution rates, with the contribution rate depending on a member's salary.
- Accrual rates have increased for the main schemes for new entrants, from 80ths to 60ths of salary. The separate lump sum accrual, which used to provide a lump sum of 3/80ths of salary for each year of service, has been abolished for new entrants. New entrants to the schemes can now only receive a lump sum at retirement if they exchange (or 'commute') part of their pension. Special tiered accrual rates for the Armed Forces, Police and Fire schemes have been abolished.
- New tiers of ill-health pension have been introduced, as have new flexible retirement arrangements.
- Survivors' pensions are now payable to civil partners and to non-legal partners who have a financially interdependent and cohabiting relationship.²⁷ Survivors' pensions now continue to be paid after a spouse or survivor remarries or forms another civil partnership.
- Cost sharing and cost capping agreements have been made for the NHS, Teachers', and Civil Service schemes, and Local Government is expected to follow. These agreements mean that any unanticipated future increases in costs will be borne by both public sector employers and the members of the schemes, or solely by the members, rather than automatically falling only on public sector employers as was the former situation.

What might be the impact of the reforms?

These are early days for the reforms, the last of which was only introduced in April 2008, and it will be some time until their full effects become clear. The following chapters use new PPI modelling, published Government data, and existing academic work to consider the likely impact of the reforms on:

- Individual members of the public sector schemes.
- The long-term affordability and sustainability of the schemes.
- How public sector schemes will compare against private sector schemes after the reforms.

It is often assumed that good public sector pension schemes make up for lower pay in the public sector. A final chapter will consider whether this assumption still holds true.

²⁶ The percentage of salary that members of a pension scheme contribute towards the costs of the scheme

²⁷ For example, see NHS Employers (2007)

Table 1: Summary of the main elements of the reforms to public sector pension schemes (all reforms are for new joiners only unless otherwise stated)

	NHS ¹	Teachers'	Civil Service ²	LGPS (reformed for all members)	Armed Forces	Police	Fire
Normal Pension Age (NPA)	60 à 65	60 à 65	60 à 65	Remains 65; Rule of 85 abolished for new service with transitional protection	No change from 55	50 with 25 years' service (below 50 with 30 years); 55 (57 or 60 for higher ranks) à 55	55 (from 50 after 25 years' service) à 60
NPA for early leavers	Same as NPA	Same as NPA	Same as NPA	Same as NPA	60 à 65 (all members for future service)	60 à 65	60 à 65
Basic design	Remains final salary	Remains final salary	Final salary à Career average	Remains final salary	Remains final salary	Remains final salary	Remains final salary
Accrual rate	80ths à 60ths	80ths à 60ths	60ths à 2.3%	80ths à 60ths	69ths (91ths after 22 years) ³ à 70ths	60ths (30ths after 20 years) à 70ths	60ths (30ths after 20 years) à 60ths
Additional lump sum?	3 x pension à commutation	3 x pension à commutation	Commutation only	3 x pension à commutation	No change from 3 x pension	Commutation à 4 x pension	Commutation only
Late retirement enhancement?	No à Yes	No à Yes	No à Yes	No à Yes	No	No	No
Draw-down option?	Yes	Yes (all members)	Yes (all members)	Yes	No	No	No
Rate of e'ee contributions ⁴	6% (5%) à 5-8.5% (for all members)	6% à 6.4% (for all members)	No change from 3.5%	6% (5%) à 5.5-7.5%	Remains non-contributory	11% à 9.5%	11% à 8.5%
Cost sharing?	Yes	Yes	Yes	Expected to apply	No	No	No
Eligibility for survivor's pension	Now includes non-legal partners and payable for life (but only for new joiners in the Police and Fire schemes)						
Survivor's pension on death in retirement	Remains a 160ths pension	Remains a 160ths pension	160ths à 3/8ths of member's pension	Remains a 160ths pension	50% à 62.5% of member's pension	Remains 50% of member's pension	Remains 50% of member's pension
Ill-health benefit	1-tier à 2-tier	1-tier à 2-tier	Remains 2-tier	1-tier à 3-tier	1-tier à 2-tier	1-tier à 2-tier	Remains 2-tier
Timescale	1 April 2008	1 January 2007	30 July 2007	1 April 2008	6 April 2005	6 April 2006	6 April 2006

¹ The scheme for salaried staff is illustrated. Self-employed members, such as GPs and Dentists, have a career-average scheme that is not shown

² The Premium section of the Civil Service scheme is illustrated here, since the Classic section has been closed to new members from 2002.

³ For other ranks. Officers have higher accrual rates.

⁴ If a range is shown then employee contributions depend on pay. Figures in brackets denote special provisions for certain categories of workers.

Chapter 2: What will be the impact of the reforms on public sector employees?

This chapter considers how well the reforms have increased the flexibility and attractiveness of the schemes to public sector employees and employers.

Measuring the value of pensions to employees

To quantify the impacts of the reforms, the value of the public sector pension schemes to members of the schemes has been modelled. The measure used is the 'effective employee benefit rate', which:

- Is expressed as a percentage of salary.
- Is calculated as the amount that would be needed to 'buy' the benefits of the scheme, as if it were a funded scheme. Member contributions have been deducted, to show the notional remaining amount that is contributed by the employer.
- Takes account of the main features of the schemes' designs, including their normal pension age, accrual rate, survivors' benefits, ill-health benefits, and death-in-service benefits.
- Is an estimate of the additional remuneration an individual in each type of scheme is receiving on average from the pension. If the effective employee benefit rate in Scheme A is 20% of salary and in Scheme B is 15% of salary, then the members of Scheme A are in effect receiving benefits worth 5% of salary more than those of Scheme B.

The effective employee benefit rate measures the value of the scheme to an 'average' member. It is therefore not necessarily representative of the actual value to a particular individual, which will depend on individual circumstances such as salary progression and length of service and may vary widely. It does not indicate the cost of the scheme to the employer, which is affected by accounting, regulatory and tax environments.

The calculations are very sensitive to the assumptions made, especially the choice of 'discount rate' used to place a single value on the stream of payments that can result from a pension entitlement. There is a range of views on the appropriate discount rate to use when valuing pension entitlements. The assumptions made in this paper are based on those used by the Government in its long-term projections of the schemes, and are described in Appendix 1. Adopting other assumptions, however, is unlikely to change the main messages of this report, which relate to the relativities between different schemes.

A valuable part of the remuneration package

The effective employee benefit rate is typically in the range of 20-40% of salary for the seven main public sector pension schemes,²⁸ which underlines that the pension schemes are an important part of the remuneration package for many people in the public sector. The public sector currently constitutes a sizeable 20% of the UK's workforce,²⁹ so the schemes are a substantial part of pension provision in the UK.

The mean public sector pension in payment to pensioners now is under £7,000 a year.³⁰ Although this includes pensions to dependants such as surviving partners and children, which will bring down the average, it suggests that many people in the public sector have relatively low salaries and/or short periods of service. Levels of pay in the public sector, and how these relate to levels of pay in the private sector, are considered separately in Chapter 5. This Chapter focuses on the impact of the pension reforms to individuals, and assumes that future levels of pay are not influenced by the reforms.

The reforms reduce the effective employee benefit rate

Across the four main public sector pension schemes (for the NHS, Civil Service, Teachers and Local Government), the reforms have reduced the average value of the schemes by 3% of salary for new entrants, from 23% to 20%. The precise effects of the reforms, however, vary from scheme to scheme (Chart 2):

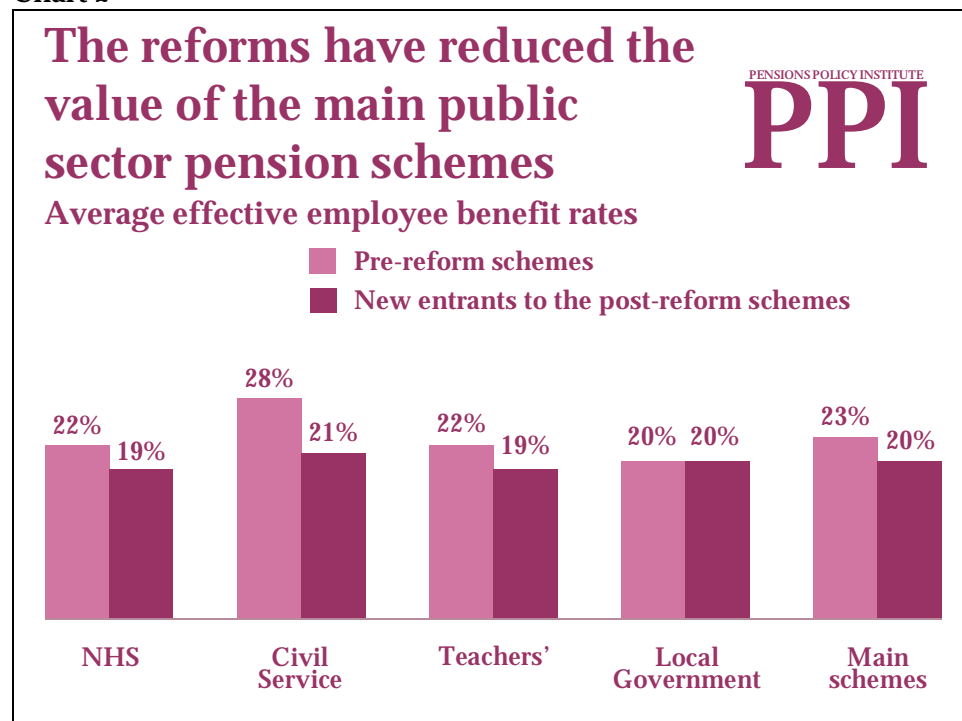
- The reforms to the NHS and Teachers' schemes have reduced the average effective employee benefit rate from 22% to 19% of salary.
- Before the reforms, the Civil Service scheme was more valuable than the NHS and Teachers' schemes, because member contribution rates were lower at 3.5% of salary rather than 6% of salary in the NHS and Teachers' schemes, and because the accrual rate was higher.³¹ The reforms to the Civil Service scheme have roughly brought the scheme in line with the NHS and Teachers' schemes by reducing its effective employee benefit from 28% to 21% of salary.
- The Local Government scheme already had a normal pension age of 65 even before the reforms and an effective employee benefit rate of 20% of salary. The reforms to this scheme have not altered its average effective employee benefit rate, although benefits have been made more or less valuable for different types of member.

²⁸ PPI modelling based on average employee characteristics in each of the schemes. Some individual scheme members may have an effective employee benefit rate that lies outside of this range.

²⁹ Livesey et al (2006)

³⁰ Mean for NHS, Civil Service, Teachers' and Local Government schemes, including dependants and lump sums, from NHS Business Services Authority (2007), Cabinet Office (2007), TPS (2007) and CLG (2007)

³¹ The Civil Service scheme has undergone reform a number of times. This paper takes as the 'pre-reform' Civil Service scheme the Premium section of the scheme, which became the choice available to new members two months before the publication of the 2002 Green Paper. The older sections of the Civil Service scheme operated an 80ths accrual rate with an extra lump sum of 3 times salary; the Premium section, however, had a (more generous) combination of an 60ths accrual rate and no extra lump sum.

Chart 2³²

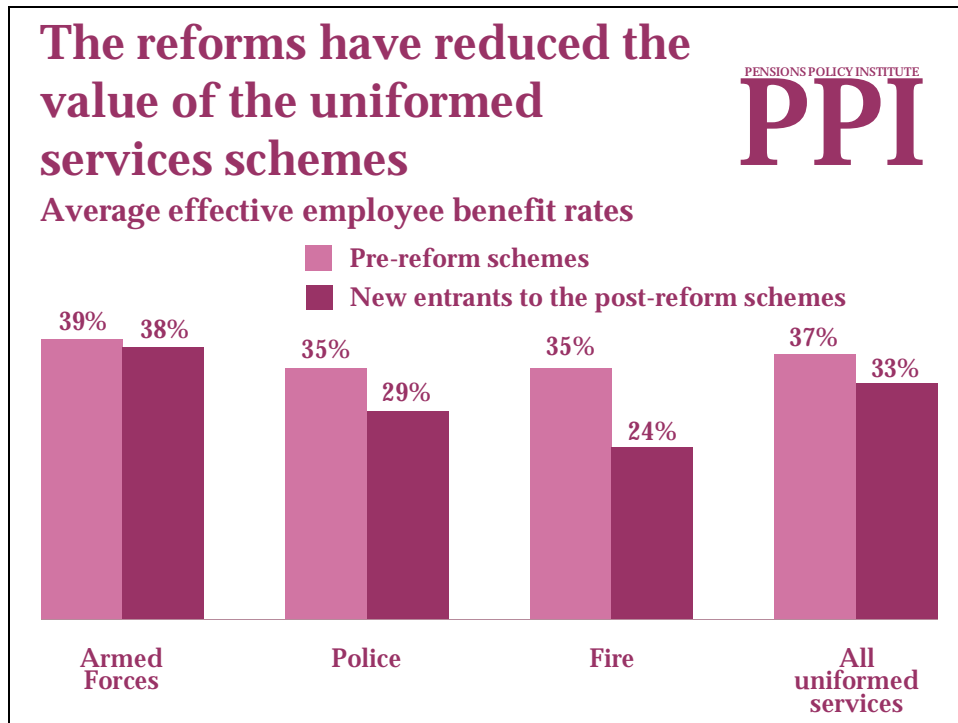
The schemes for the uniformed services – the armed forces, police and fire services – are much smaller than the main four schemes. Together, they have around 0.4 million active members, in comparison to the 4.1 million active members of the four main schemes. The uniformed services schemes were more valuable than the main schemes before the reforms, and remain so after the reforms (Chart 3):

- The reforms to the Armed Forces scheme have reduced the effective employee benefit rate by 1% of salary, from 39% to 38%.
- Before the reforms, the Police and Fire schemes both had an average effective employee benefit rate of around 35% of salary. The reforms to the Police scheme have reduced its average effective employee benefit rate from 35% to 29% of salary. The reforms to the Fire scheme have reduced its average effective employee benefit rate further, from 35% to 24% of salary.

Across all seven public sector pension schemes, the reforms have reduced the average effective employee benefit rate by around 3% of salary, from 24% to 21%. The effective employee benefit rates in Charts 2 and 3 are averages over the overall active memberships of the schemes. The effects of the reforms for any one individual will depend on his or her age and sex, and these more detailed results are shown in Appendix 2.

³² PPI modelling

Chart 3³³



The impact of increasing the normal pension age has been offset by other aspects of the reforms

As an illustration of the more detailed effects of the reforms, consider a 40 year-old man working for the NHS pension scheme.³⁴

Case study: The NHS scheme

The NHS scheme is chosen as a case study because it is the largest of the unfunded public sector pension schemes, with 1.3 million active members. It has been reformed in a similar way to the Teachers’ scheme (the principal difference being that the NHS has introduced tiered contribution rates while the Teachers’ scheme has not). Effective employee benefit rates are very similar between the two schemes.

If the NHS scheme were not reformed, a 40 year-old male new entrant would have had an effective employee benefit rate of 22% of salary. Under the reforms, assuming he joins the new scheme that came into operation on 1 April 2008, his effective employee benefit rate reduces to 19% of salary. The components of this reduction can be broken down as follows (Chart 4):

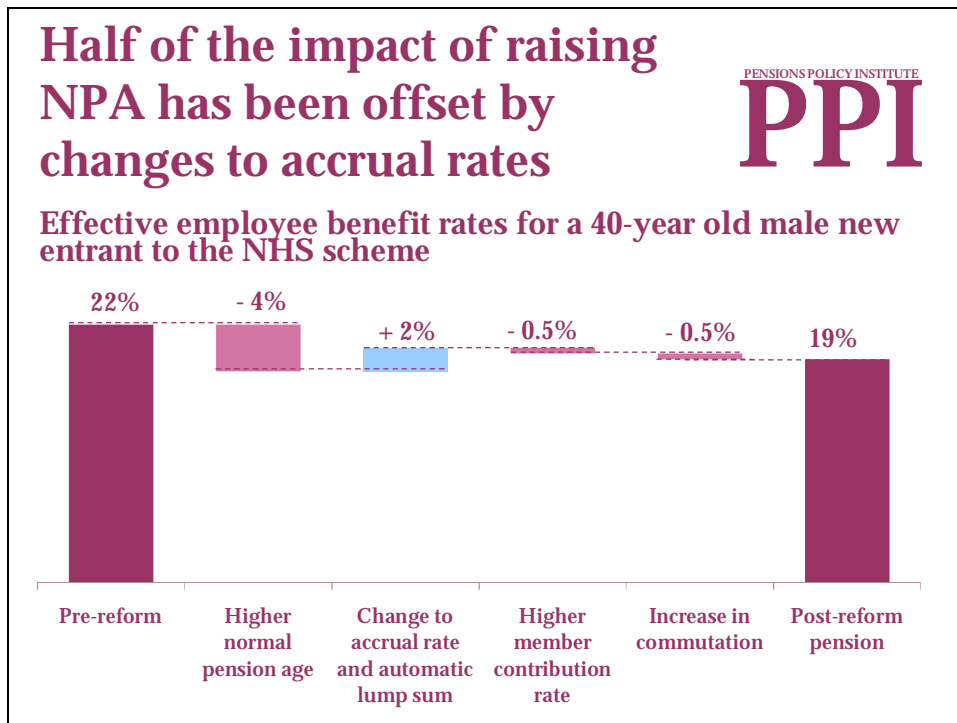
- The increase in normal pension age from 60 to 65 means that pensions will come into payment later and will be in payment for a shorter period of time. This reduces his effective employee benefit rate by 4% of salary.

³³ PPI modelling

³⁴ The modal age of the active membership of the NHS pension scheme was 42 for men and 41 for women at 31 March 2004, GAD (2007) page 8

- The NHS scheme has improved its accrual rate from 80ths to 60ths and has abolished the additional 3/80ths lump sum for new entrants. This offsets around half of the impact of raising the normal pension age, increasing his effective employee benefit rate by 2% of salary.
- Tiered contributions have been introduced for the NHS scheme, so that member contribution rates now depend on level of salary. If the man has an average salary for the NHS scheme, this will reduce his effective employee benefit rate by 0.5% of salary as his member contribution will increase.
- The NHS scheme, in common with other public sector schemes, has also increased the amount of tax-free lump sum that members can choose to receive through giving up some of their pension income. Since the rate at which pension is exchanged for lump sum is less than actuarially fair, this could reduce his effective employer benefit rate by 0.5% of salary.³⁵
- Overall, the combined net effect of the reforms is to reduce his effective employee benefit rate by 3% of salary, from 22% before the reforms to 19% after.

Chart 4³⁶



If the employee started working for the NHS before 1 April 2008, then his effective employee benefit rate would have been reduced from 22% to 21% of salary under the reforms, as a result of the higher member contribution rate and increase in commutation. He would not be affected by the increase to

³⁵ Allows for the tax advantage of tax-free lump sums and assumes members exchange the same amount of pension for lump sum as assumed in actuarial valuations, GAD (2006 TPS)

³⁶ PPI modelling for someone who retires at normal pension age. Pre-reform and post-reform figures are rounded to nearest 1% of salary; step changes are rounded to nearest 0.5% of salary.

NPA because existing scheme members have retained an NPA of 60. This illustrates the cliff-edge that results from the overnight introduction of the reforms: the pension for the existing member is worth around 2% of salary more than the pension for the new entrant.

The impact of the reforms will depend on the characteristics of the particular member involved. The introduction of tiered contribution rates, for example, will increase the effective employee benefit rate for some lower-paid members of the schemes, and reduce the effective employee benefit rate further than suggested in Chart 4 for some higher-paid members of the schemes. The impact of the new facility to exchange pension for lump sum will depend on whether the facility is made use of and how much pension is exchanged, as well as on a member's marginal tax rate.

Appendix 3 explores further the impacts of the separate components of the reforms to the NHS pension scheme shown in Chart 4. It also discusses other aspects of the scheme reforms that are not taken into account in the calculation of the effective employee benefit rate, but which can have a significant impact for certain individuals, namely:

- The retargeting of ill-health benefits on those least likely to be able to work in future.
- The introduction of new flexible retirement options.
- The widening of the eligibility criteria for survivors' pensions.

Only the Civil Service has moved to career average

Before the reforms, most pension schemes in the public sector were 'final salary' pension schemes, which are calculated as a multiple of final salary³⁷ and years of service. The reformed pension scheme for new entrants to the Civil Service (called *nuvos*) will be a 'career average' pension scheme, meaning that it will be calculated as a multiple of the sum of earnings over a member's career. So far, the Civil Service is the only one of the main public sector schemes that has decided to switch from final salary to career average.

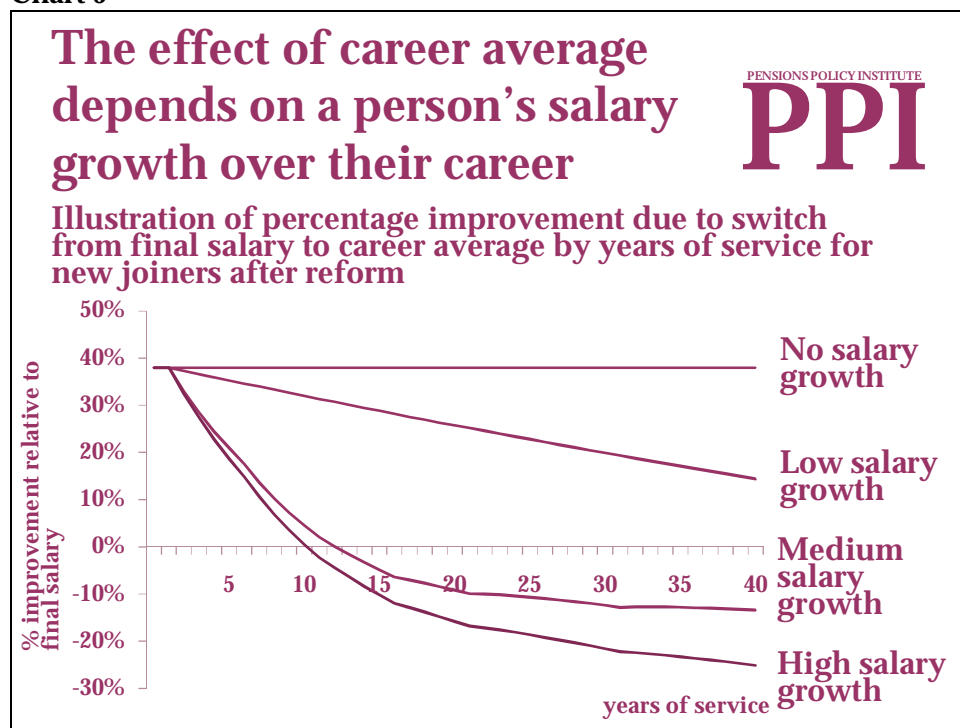
A career average scheme is still a Defined Benefit scheme, since the size of a pension is set out by a formula, based on the member's salary. The difference with a final salary scheme is that the formula has changed to reflect average earnings over a member's career (increased in line with price inflation in the case of the reformed Civil Service scheme), rather than with his or her earnings in the years before leaving service. Since earnings usually increase more quickly than price inflation, the multiple used to calculate pensions (the accrual rate) is increased to compensate: from 60ths in the pre-reform Civil Service scheme to approximately 43rds (2.3%) in the new scheme.

³⁷ In practice, schemes often use a measure of salary that is close to final salary, such as best earnings in the last x years, or the average of the best y years of earnings in the last z years (where x, y and z can vary from scheme to scheme), ONS (2008) page 38

The effect of the switch to career average on final pension entitlements depends on individuals' years of service and salary growth. Chart 5 illustrates the potential effects of a switch from final salary to career average but not the other changes made to the Civil Service scheme. Compared to final salary:

- New entrants who receive no salary increases in excess of price inflation over his or her career could be almost 40% better off under career average.
- Younger new entrants with medium salary growth³⁸ could be better off under career average provided they remain in service for less than about 12 years.
- New entrants with high salary growth³⁹ could be worse off if they remain in the scheme for 40 years under career average.

Chart 5⁴⁰



Unlike Chart 5, the effective employee benefit rate includes the effects of both the move to career average and the other aspects of the scheme reforms such as the increase in normal pension age to 65. It uses assumptions on the likely length of a person's service.

The effective employee benefit rate will be lower under the reformed Civil Service scheme than the pre-reform scheme at most ages (Chart 6). This assumes the medium salary increase profile, but the conclusion that the

³⁸ 1.5% a year in excess of prices, plus promotional pay increases as described in Appendix 1, which equates to around 3.3% a year on average in excess of prices over a 40-year career

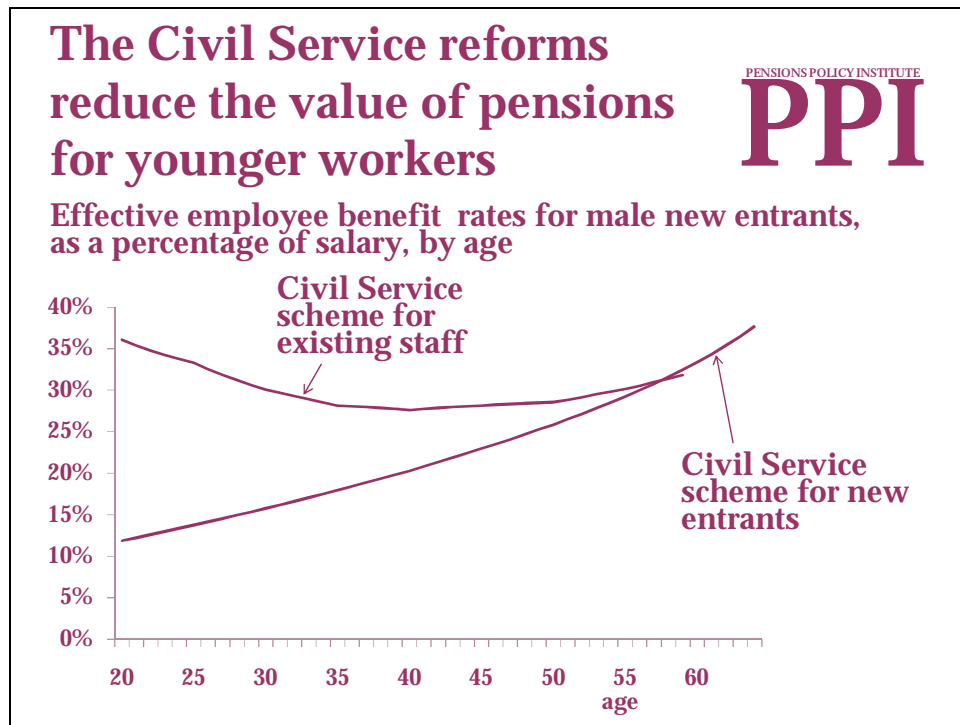
³⁹ 1% a year in excess of medium salary growth

⁴⁰ PPI estimates. Career average scheme is *nuvos*. Final salary scheme assumes an accrual rate of 60ths. Low salary growth is 1% a year in excess of prices.

effective employee benefit rate is lower under the reformed scheme holds true if the high and low salary growth profiles are used.⁴¹

The reformed scheme is almost as valuable as the pre-reform scheme for members in their fifties, and offers relatively high benefit rates for members who continue work in their sixties. This is because older members benefit from the higher accrual rate under the career average scheme while experiencing the lower revaluation rate for a shorter period of time. For younger members, however, the value of the scheme is reduced significantly, by 20% of salary at some ages. Chart 6 is for new entrants since existing civil servants with service in the pre-reform pension scheme are not allowed to join the new scheme.⁴²

Chart 6⁴³



⁴¹ The effective employee benefit rate is slightly higher under the reformed scheme than under the pre-reform scheme if the no real salary growth profile is assumed

⁴² This contrasts with some of the other public sector schemes, such as the NHS scheme, where existing staff are allowed to voluntarily join the new arrangements

⁴³ PPI modelling. Line A ("Civil Service scheme for existing staff") illustrates the Premium section.

Special changes for the uniformed services schemes

The pre-reform uniformed services schemes (Armed Forces, Police and Fire) differed from the other public sector schemes in a number of ways. For example, in the Police and Fire schemes:

- Normal pension ages were lower, at 55, or 50 for long-serving members of the schemes.⁴⁴
- Pension accrued much more quickly for long-serving members of the schemes, at 60ths for the first 20 years, but then at 30ths after 20 years, so that the maximum two-thirds pension was accrued after 30 years.
- There was no additional lump sum.
- Member contributions were much higher, at 11% of salary.

The Armed Forces scheme was non-contributory, had a normal pension age of 55, accrued at around 69ths, with an addition lump sum of three times pension, and had a slower accrual rate after 16 years.

The uniformed services schemes were reformed earlier than the other schemes, in 2005 and 2006. The Government did not increase normal pension ages in these schemes to 65 for everybody because it considered that *the need for a recognised physical capacity justifies the award of normal pension at a lower age*.⁴⁵ However, normal pension ages have still been increased in some of the schemes for new entrants: to 55 in the Police scheme (abolishing the earlier age for long-serving members of the scheme), and to 60 in the Fire scheme.

Members who leave the uniformed services schemes before their normal pension age for any reason besides ill-health will have their normal pension age increased to age 65. This change applies to all members for future service in the Armed Forces scheme and to all new entrants to the Police and Fire schemes.

The two-tiered accrual rates were also abolished, because:⁴⁶

- *The present system of dual accrual, with fast accrual of pension rights after 20 years' service, disadvantages late entrants and those who take career breaks since the benefits are "end-loaded".*
- *Pensions accrual on a constant basis and over 35 years would also make some officers more willing to consider leaving the service if they would ideally prefer not to make policing their life's career.*

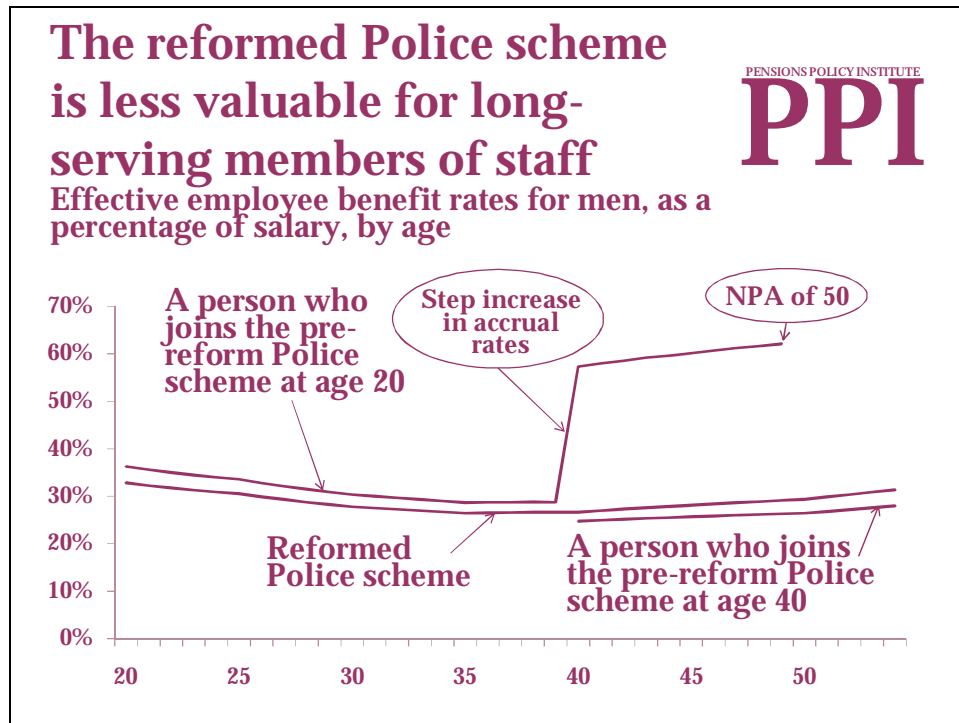
These changes apply only to new entrants. The result is a very large reduction in the effective employee benefit rate for people who become very long-serving members of the schemes, from over 60% of salary at some ages to less than 30% of salary (Chart 7). People who are shorter-serving members of the schemes can receive a slightly higher effective employee benefit rate under the new scheme.

⁴⁴ Ranks higher than sergeant in the Police Force have a normal pension age of 57 or 60 in the old scheme. The earliest normal pension age in the Police scheme was 48.5 years for someone who joined at age 18.5.

⁴⁵ DWP (2002)

⁴⁶ Quotes relate to the Police scheme. Home Office (2003) page 5

Chart 7⁴⁷



Summary: What will be the impact of the reforms on public sector employees?

The Government’s reforms have reduced the average value of public sector pension schemes by around 3% of salary for new entrants, from 24% to 21%. The precise effects of the reforms, however, vary from scheme to scheme and for individual members of the public sector schemes.

The reforms have reduced the average value of the four main public sector pension schemes (for the NHS, Civil Service, Teachers and Local Government) by around 3% of salary for new entrants, from 23% to 20%. Around half of the impact of rising the normal pension age has been offset by improvements in pension accrual rates. The reforms are likely to have less impact for existing members who retain a normal pension age of 60.

The schemes for the Armed Forces, Police and Fire have fewer members than the four main schemes. The reforms to the Armed Forces, Police and Fire schemes have reduced their average value by around 4% of salary for new entrants, from 37% to 33%. For long-serving members of the schemes, the reduction in value can be more significant. Members of these schemes can have an NPA of 55 or 60 provided that they remain in these schemes until retirement, but in future will have their NPA increased to 65 if they leave the scheme early.

⁴⁷ PPI modelling

Chapter 3: Will the reforms improve the financial sustainability of the schemes?

The costs of the public sector pension schemes are met jointly by members of the schemes and the taxpayer. The first part of this chapter considers the costs of the schemes to the taxpayer, after the amount contributed by members of the schemes has been deducted. The later part considers the new cost sharing and cost capping agreements, which aim to share unanticipated future changes in costs between the members of the public sector pension schemes and the taxpayer.

A significant liability

The 'liability' of a pension scheme is a figure that represents the value of pensions and other benefits which are expected to be paid from the scheme in the future in respect of past service in the scheme. All pension schemes have liabilities. The current Government estimate of the combined liability of the unfunded public sector pension schemes is £650bn. This excludes the Local Government pension scheme, which is a funded scheme.⁴⁸

Estimates of the liability are very sensitive to the assumption made about the discount rate, which is used to express future cashflows as a single figure. Although the Government's estimates of the liabilities have been increasing rapidly (Table 2), this does not by itself suggest that the underlying cost of public sector pensions to the taxpayer is increasing. Much of the change is attributable to accounting effects such as changes in the discount rate, which do not mean that the size or timing of future pension payments by the schemes have been altered, but which reflect the recording and presentation of the liability to make these payments in the scheme accounts.

Table 2:⁴⁹ Recent Government estimates of the liability of the public sector pension schemes and the underlying discount rate assumptions

31 March	Liability (£ billion)	Real discount rate	
		Schemes funded directly by central Government	Police & Fire schemes
2004	460	3.5%	3.5%
2005	530	3.5%	2.4%
2006	650	2.8%	1.6%
2007	Not yet available	1.8%	
2008	Not yet available	2.5% ⁵⁰	

⁴⁸ The Local Government pension scheme has assets of £122 billion. Figures as at end March 2007 for English schemes only from Communities and Local Government Statistical Release 2006-07.

⁴⁹ Liability figure includes the schemes for the NHS, Teachers, Civil Service, Armed Forces, Police, Firefighters, Judiciary and Atomic Energy Authority. HMT (2008) page 38 and HMT (2006 PSP).

⁵⁰ HMT (2008 PES)

The discount rate used by the public sector schemes is based on an AA corporate bond rate, in line with that required by accounting standard FRS17, and therefore fluctuates based on market conditions. For the schemes funded directly by central Government, the discount rate is 1.8% real for estimating liabilities for 31 March 2007, compared to the average private sector assumption for 2006/7 of 2.2%.⁵¹ The schemes funded directly by central Government will use a discount rate of 2.5% real for estimating liabilities at 31 March 2008.

Other organisations have made different assumptions than the Government and have calculated much larger liabilities for the unfunded public sector schemes. For example, using a discount rate in line with an index-linked gilt rate (1.2% real) results in an estimate of £1,071 billion as the liability of the unfunded public sector schemes.⁵²

The Government's estimate of the liabilities of the unfunded public sector schemes, at £650 billion, is almost 50% of GDP. This amount of money, however, will not need to be found at any single point of time, but over a period of fifty years or more as the pension entitlements and other benefits that have built up in the past become due. The following section considers the future annual amount of spending on the unfunded public sector schemes.

Future cost increases

The Government argues that *measures of public debt* [such as the liability] *have often been the prime focus when analysing the sustainability of public finances. Debt (less liquid financial assets) is the cumulative outcome measure of past borrowing, and as such provides a measure of obligations created in the past that have been accumulated to date.... However, debt is a backward-looking indicator and as such is not designed to answer the question of whether a government will be able to meet its obligations as and when they arise in the future.*⁵³

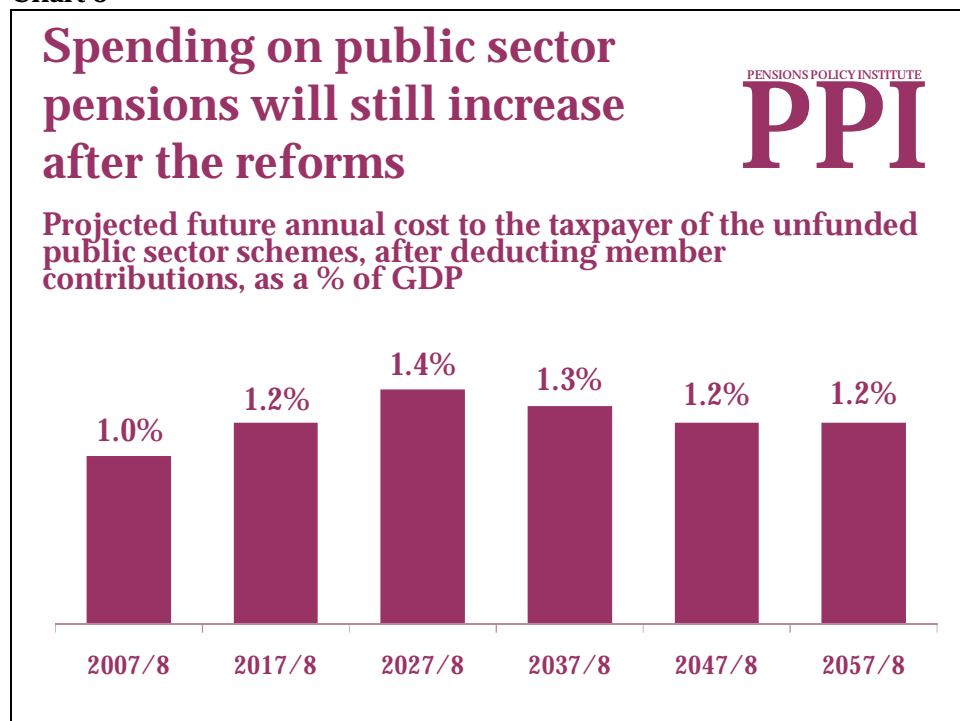
In addition to the liability, the Government also publishes estimates of how much it expects the unfunded public sector pensions schemes to pay out each year in pensions and other benefits. If the amount contributed by members of the public sector schemes is subtracted from these figures, they equal the annual cost to the taxpayer of the unfunded schemes. A broad projection of the amount contributed by members of the public sector schemes has been made and subtracted from the Government's projection, and the net figures are shown in Chart 8.

The figures show that, after the recent reforms, the annual cost to the taxpayer of the unfunded schemes is projected to increase by 40% over the next twenty years, from 1.0% of GDP (£14 billion) to 1.4% of GDP in 2027/8, before reducing to around 1.2% of GDP. Again, this excludes the Local Government pension scheme, which is a funded scheme.

⁵¹ Punter Southall on-line FRS17 survey for FTSE 100 companies

⁵² Record (2008)

⁵³ HMT (2008) page 20

Chart 8⁵⁴

The NHS, Civil Service and Teachers' schemes have introduced cost sharing and cost capping agreements, and the Local Government scheme is expected to follow. These agreements mean that any unanticipated future increases in costs may be borne by both public sector employers and the members of the schemes, or solely by the members, rather than automatically falling only on public sector employers as was the former situation. The Government argues that these will *deliver long-term sustainability through the reduction of taxpayer exposure to risks, principally those associated with improvements in longevity over and above the improvements already anticipated*.⁵⁵ The effects of the cost sharing and cost capping agreements could be significant and are considered later in this chapter, but are not shown in Chart 8, which shows only anticipated future increases in costs.

Note that there is a broader set of costs and savings associated with pension provision that cannot be shown in the cost estimates in this chapter. For example, the figures do not take account of the income tax relief granted on the contributions made by members of the public sector schemes, the national insurance relief granted on contributions made by public sector employers, or the income tax collected from pensioners on public sector pensions in payment. State spending on means-tested benefits might be higher in the absence of the public sector pension schemes. If public sector employers find it

⁵⁴ PPI calculations based on HMT (2008) Table 4.1 and ONS Pension Trends Table 8.12. In the absence of detailed projections of aggregate member contributions, the figures assume they will increase as a proportion of GDP from 0.5% to 0.6%, in line with the recent increases to member contribution rates.

⁵⁵ House of Commons *Hansard* 26 July 2007 Column 105WS. This statement was made in the context of the Civil Service scheme.

more difficult as a result of the reforms to recruit and retain employees of suitable quality to deliver public services, then in the long term it is possible that public sector salaries might need to rise more quickly than they otherwise would, which could offset some of the cost savings from the reforms.

Out of all of the areas of state spending separately identified in the Government’s *Long-term public finance report*, public sector pensions is by far the most rapidly growing, increasing by 40% on today’s spend over the next twenty years (Table 3). However, the actual increase in spending on public sector pensions over this period (0.4% of GDP, from 1.0% to 1.4% of GDP) is smaller than in other areas such as health and education (which increase by 1.2% and 0.8% of GDP, respectively). In the very long term, after 2027/8, spending on public sector pensions is projected to decline (Chart 8), while spending on health, state pensions and long-term care is projected to continue to increase.⁵⁶

Future spending on public sector pensions is a result of a contractual relationship between public sector employers and public sector employees, while other areas of state spending are to some extent discretionary and will depend on future governments’ priorities.

Table 3:⁵⁷ Government spending projections

	Spending in 2007/8 as % of GDP	Spending in 2027/8 as % of GDP	Increase in spending over period	Percentage increase over period
	(A)	(B)	(B – A)	(B – A) / A
Public sector pensions	1.0	1.4	0.4%	40%
Long-term care	1.2	1.4	0.2%	17%
Health	7.4	8.6	1.2%	16%
Education	5.0	5.8	0.8%	16%
State pensions	4.9	5.6	0.7%	14%

Note: these five areas together constitute 47% of total state spending.⁵⁸ Long-term projections are not produced for the remaining elements of total state spending.

⁵⁶ HMT (2008) Table 4.1

⁵⁷ HMT (2008) Table 4.1 and Chart 8

⁵⁸ ‘Total state spending’ is the sum of public sector current expenditure, public sector net investment and depreciation, HMT (2008 B) pages 182 and 194

The Government states that the projected increase in the cost of the public sector pension schemes reflects recent changes in the size of the public sector workforce, improved life expectancy and the fact that some schemes, and in particular the NHS scheme, are not yet mature.⁵⁹ It is unlikely that costs could be reduced in the short term, unless benefits are cut retrospectively. However, the Government's reforms reduce:

- Costs over the longer term.
- Unanticipated future increases in costs.

How much will the reforms save the taxpayer?

The spending projections shown above include the impact of the recent reforms; spending would be higher in the absence of reform. However, the Government has not published an overall estimate of the year-on-year cost savings that it expects to see from the reforms for taxpayers. This makes it difficult to assess the impact of the recent reforms on the long-term affordability and sustainability of the schemes.

The NHS and Teachers' schemes asked the Government Actuary to estimate the cost savings resulting from their reforms as part of their scheme valuations, and found that the reforms reduced the cost of these schemes to their employers by around 8% of the pre-reform employer cost (Table 4). These estimates are on an accruals basis, which means that they relate to the amount of contributions that public sector employers make in respect of pension benefits accruing each year to their employees. As mentioned in Chapter 1, employers who offer unfunded public sector pension schemes pay contributions to a sponsoring government department as if the scheme were run on a funded basis.

Table 4:⁶⁰ Estimated first-year savings from the reforms for the schemes where estimates are available

	Savings to employers (£ million)	As a proportion of pre- reform employer cost
NHS	470	8%
Teachers'	280	8%
Local Government	340	7%

These cost savings include the effect of increasing the normal pension age to 65 for new entrants to the main schemes, increasing the commutation limit to the HMRC maximum, reforming ill-health benefits and increasing the accrual rates. It does not include the potential effect of the cost sharing and cost capping agreements, which are discussed later in this chapter. The savings to

⁵⁹ HMT (2008) page 37

⁶⁰ Estimates for the NHS scheme based on Government Actuary's Department estimates of the amount of savings for employers as a proportion of total pensionable payroll, GAD (2006 TPS) and GAD (2007). Estimates for the Teachers' scheme from House of Commons *Hansard* 21 November 2006 Column 30WS. Estimate for the Local Government scheme based on the original cost envelope set out by Communities and Local Government for the reform proposals and may not equate to the final position, CLG (2006).

employers will increase over time, as a greater proportion of the public sector workforce have the higher normal pension ages that apply to new members.

The cost to the taxpayer of the unfunded public sector schemes, however, is the annual amount paid out by the schemes each year in pensions and other benefits. It will take time before the reductions in the value of the schemes filters through into lower pension payments. This means that the reforms may reduce taxpayer spending on pensions and other benefits by less than the figures in Table 4 suggest.

The reforms to the Local Government pension scheme are estimated to reduce employer contributions by £340 million a year, or by 7% of the pre-reform employer cost. Since this scheme is funded, these savings mean a direct reduction in the annual cost of the scheme to taxpayers.

To put the savings in context, the Government expects the reforms to the NHS, Civil Service and Teachers' schemes to save public sector employers a total of £13 billion over a fifty year period.⁶¹ This compares to the total amount contributed by public sector employers to these three schemes of around £10 billion every year.⁶²

The amount of savings will depend on behaviour

Any estimate of the cost savings from reform is subject to a degree of uncertainty, since the behaviour of scheme members under the reformed schemes is not yet known.

As noted in the previous chapter, the terms on which public sector members exchange pension for extra lump sum are not actuarially fair. The decision to allow members of the schemes to exchange more of their pension for a lump sum at the rate chosen has resulted in expected cost savings for the public sector schemes. It is one reason why the schemes were able to meet the original cost savings envisaged in the 2002 Green Paper, despite retaining a normal pension age of 60 for existing members.

The Teachers' scheme has published more detailed estimates than the other schemes on the savings expected from the higher lump sum allowance. The central estimate is a saving to employers of around £170m a year,⁶³ which is substantial in comparison to the total saving from the reforms of £280m a year. The saving is very uncertain. If more or fewer scheme members than expected exchange pension for lump sum, then the total annual saving from the reforms

⁶¹ Evidence given to the Treasury Select Committee on 8 December 2005 by the then Chancellor of the Exchequer Gordon Brown

⁶² NHS Business Services Authority (2007) page 32, Cabinet Office (2007) page 26, TPS (2007) page 26

⁶³ PPI analysis based on Government Actuary's Department estimates of the amount of savings for employers as a proportion of total pensionable payroll, GAD (2006 TPS). The central scenario assumes existing members commute on average one-third of the extra that they could potentially commute as a result of the new HMRC rules. The high savings scenario referred to later in the paragraph assumes on average two-thirds and the low savings scenario assumes zero extra commutation.

could be anywhere in the range £90m to £430m. Similar uncertainties are likely for the other schemes.

There are other uncertainties, such as the numbers of people who will qualify for the higher level of ill-health benefit, as opposed to the new lower levels of benefit. Future costs also depend on the future size of membership of the scheme, changes to life expectancy and salary increases.

Cost sharing and cost capping may help sustainability

Agreements have been made between public sector employers and unions in respect of the NHS, Civil Service and Teachers' schemes, which the Government argues will *deliver long-term sustainability through the reduction of taxpayer exposure to risks, principally those associated with improvements in longevity over and above the improvements already anticipated*.⁶⁴

There are two parts to these agreements:⁶⁵

- **Cost sharing:** Any unanticipated increases in the cost of the schemes will be shared 50:50 between employers and scheme members. As the employer currently meets around two-thirds of the cost of the schemes, this means that future increases will fall disproportionately on members, compared to today.
- **Cost capping:** Employer contributions will be capped at a certain level, for example, at around 14% in the NHS and Teachers' schemes and at around 20% in the Civil Service scheme. These caps are all very close to the current levels of employer contributions in the schemes,⁶⁶ so any unanticipated increases in costs may, in fact, be paid almost fully by members of the schemes.

In each scheme, the cost sharing and cost capping agreement will apply to increases that result from changes in the demographic assumptions that are used to actuarially estimate the costs of the schemes (such as future longevity). It will generally not apply to cost increases that result from changes in the financial assumptions used (such as the discount rate) or from changes to the actuarial valuation methodology. The agreement will apply when changes to the benefit structure are made within the governance framework of the scheme, although it may not apply when the benefit structure is changed in order to comply with overriding pensions legislation. If an increase in costs falls onto members, it could generally be met either by an increase in member contribution rates or by a reduction in the value of benefits.⁶⁷

⁶⁴ House of Commons *Hansard* 26 July 2007 Column 105WS. This statement was made in the context of the Civil Service scheme.

⁶⁵ Cost sharing and cost capping are presented as single agreement in the schemes' rules, which state that cost sharing only applies below a cap. It is, however, convenient here to describe cost sharing and cost capping separately.

⁶⁶ Employer contribution rates for the NHS, Teachers' and Civil Service schemes are 14.0%, 14.1% and 18.9% of salary, respectively, including schemes for existing members. The NHS and Teachers' rates apply from April 2008 for England and Wales; the Civil Service rate applies from April 2009 for Great Britain.

⁶⁷ There are some exceptions. For example, the regulations of the Teachers' pension scheme require that, if in future the cost of the scheme is considered to have increased in a way that is appropriate for cost sharing to apply, the members' share of these extra costs will be paid for by increases to member contribution rates.

As a broad illustration of the potential impact of the cost sharing and cost capping agreement, life expectancy at 60 is estimated at around 28 years for men and 31 years for women.⁶⁸ If estimates of life expectancy increased by 1 year more than anticipated from these figures, this would add approximately £200 million a year to the combined costs of the NHS, Civil Service and Teachers' schemes (Table 5):

- In the absence of cost sharing and cost capping, all of the £200 million would be met by public sector employers.
- If the increase in costs are shared 50:50 between public sector employers and the members of the schemes, then employers would pay an extra £100 million a year. Assuming that the member share of the cost increase is met by increasing member contribution rates, rather than by reducing the value of benefits, member contribution rates would increase by around 0.15% of salary in each of the schemes (for example, from 3.5% to 3.65% of salary in the Civil Service scheme).
- If however, the employer cost cap applies, all of the extra costs could be met through an increase in member contribution rates of 0.3% of salary (for example, from 3.5% to 3.8% of salary in the Civil Service scheme).

Table 5:⁶⁹ Illustrative impact of a 1-year increase in life expectancy on the cost of pensions being built up each year

	Total cost to public sector employers who participate in the NHS, Civil Service or Teachers' schemes	Increase in member contribution rates for members of the NHS, Civil Service and Teachers' schemes
	(£ million)	(% of salary)
Without cost sharing and cost capping	200	0%
If costs are shared 50:50	100	0.15%
If employer cap applies	0	0.3%

The cost sharing and cost capping agreements could therefore potentially save public sector employers £200 million a year for the NHS, Civil Service and Teachers' schemes combined, if estimates of life expectancy increased by an illustrative 1 year more than anticipated. This is substantial in comparison to the level of savings from the rest of the reforms (Table 4), though relatively small in relation to the total taxpayer costs of the schemes (Chart 8). Savings as well as costs would be shared so, if estimates of life expectancy fell in future, costs to public sector employers could be higher than without the agreements.

⁶⁸ For people aged 40 in 2008. This is the assumption used in the 2006 set of long-term cashflow projections for the unfunded public sector schemes, HMT (2006) and GAD (2007 CP), updated for the new 2006-based set of official population projections. The long-term cashflow projections were updated in March 2008, but the underlying assumptions have not yet been published. Assumptions used to assess employer contribution rates will vary between the schemes.

⁶⁹ PPI illustrative calculations based on the effective employee benefit model and information on aggregate pensionable pay from NHS Business Services Authority (2007), Cabinet Office (2007) and TPS (2007)

If the employer contribution has already been capped, savings may fall wholly to members.

As mentioned in Chapter 1, employers who offer unfunded public sector pension schemes pay contributions to a sponsoring government department as if the scheme were run on a funded basis under the SCAPE system. The cost to the taxpayer is considered to be the annual amount paid out by the schemes each year in pensions and other benefits, after member contributions have been deducted. The potential savings to public sector employers shown in Table 5 will therefore not immediately translate into a taxpayer saving, although they would be expected to do over the longer term given that they represent anticipated reductions in future cashflows. Increases in member contribution rates could reduce the costs of the schemes to taxpayers in the short term.

Public consultation is underway on the details of how cost sharing and cost capping will apply to the Local Government scheme.⁷⁰ Since there are a series of Local Government schemes, each of which are funded and administered separately, the precise details of how cost sharing and cost capping operate in Local Government may need to differ from the other schemes.

Summary: Will the reforms improve the financial sustainability of the schemes?

Public sector pensions are projected to grow more quickly over the next twenty years than any other area of state spending for which long-term projections are available. Over this period, spending on unfunded public sector pensions is projected to grow from 1.0% of GDP to 1.4% of GDP in 2027/8, after allowing for the savings from the recent reforms. This is an increase of 40%, which compares to an increase of 17% for long-term care, 16% for health and 14% for state pensions over the same period. In 2027/8, state spending on public sector pensions will, however, still be lower in absolute terms than state spending on health, education and state pensions.

The savings from the reforms are likely to be relatively modest. Over the next 50 years, the Government expects the reforms to save a total of £13 billion in the NHS, Civil Service and Teachers' schemes. This compares to the total amount contributed by public sector employers to these three schemes of around £10 billion every year. The reforms to the Local Government scheme could save taxpayers £340 million a year, a 7% reduction. No data are available for the Armed Forces, Police and Fire schemes.

Cost sharing and cost capping agreements have been made in the NHS, Civil Service and Teachers' schemes, and Local Government is expected to follow. These agreements mean that unanticipated future increases in costs will be shared between public sector employers and the members of the schemes, rather than passed automatically onto public sector employers, as was the former situation. The agreements could limit employer contributions in future,

⁷⁰ See CLG (2008)

particularly as employer contributions will be subject to an overall cap. For example, if estimates of life expectancy increase by 1 year more than expected, this could cost employers in these schemes an extra £200 million a year in the absence of the cost sharing and cost capping agreements. Now the extra costs may be met almost entirely by the members of these schemes.

Chapter 4: Will the reforms close the gap between public and private sector pension provision?

The benefits of occupational pension schemes in the public sector are widely thought to be better than those available in the private sector, particularly after many private sector employers have cut back pension provision. This chapter considers whether this is the case by comparing the reformed public sector pension schemes with hypothetical private sector pension schemes.

Aggregate contributions

In the private sector, employers and employees contribute a total of around £51 billion per year towards pensions (Table 6). £31 billion is contributed in the public sector, but the public sector is much smaller, constituting only around 20% of the workforce. On a per employee basis, significantly more is contributed to pensions in the public sector than in the private sector, but this is partly because in the private sector a smaller proportion of employees are members of a pension scheme. Employers contribute around £4,000 per year per employee in the public sector, compared to £1,600 in the private sector. However, employees in the public sector also contribute more than their counterparts in the private sector.

These figures are likely to overstate slightly private sector contributions, and understate public sector contributions, because they assume that all personal pensions are held by private sector employees. Some of the public sector pension schemes have Additional Voluntary Contribution (AVC) arrangements with personal pension providers,⁷¹ which will show in the private sector figures.

Table 6:⁷² Approximate contributions to pension schemes in 2006 (before the reforms to the main public sector schemes⁷³)

	Private sector	Public sector
Total contributions (£ billion per year)		
Employers	37	23
Employees	14	8
Total	51	31
Average contributions per employee (£ per year)		
Employers	1,600	4,000
Employees	600	1,400
Total	2,200	5,400

⁷¹ For example, the Civil Service scheme

⁷² Figures are approximate since data are not available in the format required. All unfunded occupational pension schemes are assumed to be for public sector employees; similarly, all funded occupational pension schemes are assumed to be for private sector employees, except for the Local Government scheme for which an adjustment has been made. All personal pensions are assumed to be held by private sector employees. Source: ONS Pension Trends Table 8.12, CLG (2007) Table 2, and Livesey et al (2006)

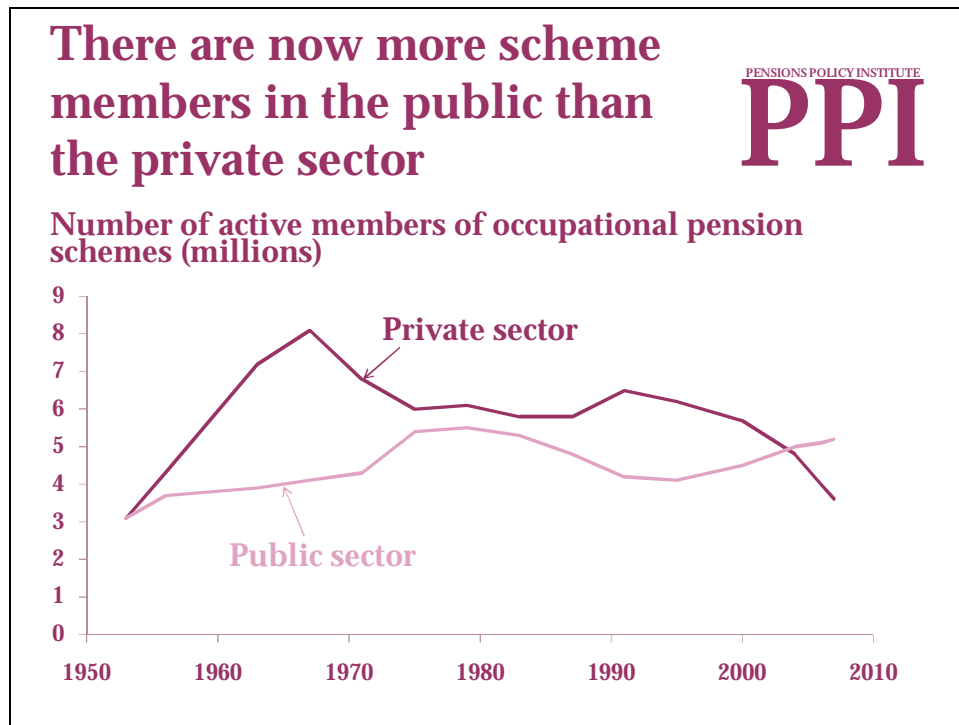
⁷³ The table is before the reforms to the NHS, Civil Service, Teachers' and Local Government reforms were introduced, but after the reforms to the Armed Forces scheme were introduced. Part of the immediate effects of the reforms to the Police and Fire schemes are reflected, since these were introduced in April 2006.

The aggregate average figures clearly reflect two underlying differences between the sectors: firstly, the difference in coverage of pension provision between public and private sectors. And secondly, differences in effective employee benefit rates. The following section explores differences in coverage, before estimates are given of how effective employee benefit rates compare between private and public sector pension schemes.

Public sector employees are more than twice as likely to be in employer-sponsored pension schemes

The number of members of private sector occupational pension schemes has been declining, from a peak of around 8.1 million in 1967 to around 3.6 million in 2007 (Chart 9). Over the same period from 1967 to 2007, the number of active members of public sector occupational pension schemes has grown from 4.1 million to 5.2 million. There are now more active members of occupational pension schemes in the public than the private sector, although the public sector makes up only around 20% of the UK workforce.⁷⁴

Chart 9⁷⁵



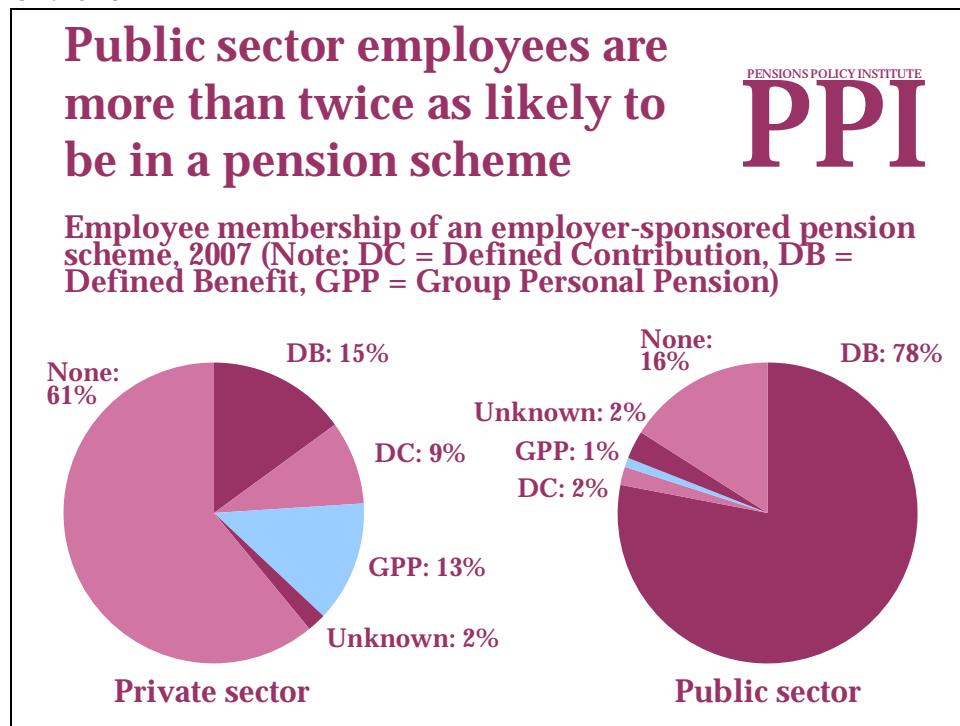
⁷⁴ Livesey et al (2006)

⁷⁵ ONS (2008) Table 3.4. There is a break in the series in 2000, when several large public sector schemes, for organisations such as the Post Office and the BBC, were reclassified to the private sector.

Chart 9 only includes members of occupational pension schemes, such as Defined Benefit and trust-based Defined Contribution schemes, and not any additional people who are members of personal pensions. The number of members of employer-sponsored personal pensions has been growing.⁷⁶ Even when personal pensions are included, however, public sector employees are more than twice as likely as private sector employees to be a member of an employer-sponsored pension scheme (Chart 10):

- Around 85% of public sector employees are members of an employer-sponsored pension scheme, most of whom have a Defined Benefit scheme.
- In the private sector, 40% of employees are members of an employer-sponsored pension scheme and only 15% of employees are active members of a Defined Benefit scheme.

Chart 10⁷⁷



As well as a reduction in the overall number of members of occupational pension schemes, the private sector has seen changes in the types of pension scheme being offered to employees. Defined Benefit schemes have been closing in the private sector, and only around 38% are now open for new

⁷⁶ DWP (2008 IA) Figure F.2

⁷⁷ ONS 2007 Annual Survey of Hours and Earnings Pensions Analysis. 'Employer-sponsored pension scheme' means a pension scheme that is arranged through an employer. Includes people with a group personal pension but not people who only have a personal pension that they arranged individually with a pension provider. Includes schemes that do not receive contributions. Figures are based on numbers of jobs and so some individuals with more than one job may be counted more than once. Group personal pensions include group stakeholder pensions.

entrants.⁷⁸ Larger Defined Benefit schemes are more likely than smaller Defined Benefit schemes to be open to new entrants, so that almost half (47%) of active members of private sector Defined Benefit schemes are in schemes that are still open to new entrants.⁷⁹ With fewer Defined Benefit schemes being set up in the private sector,⁸⁰ the number of active members of private sector Defined Benefit schemes is nevertheless likely to continue to fall in future if current trends continue. The public sector pension schemes, however, are nearly all DB and remain open for new members to join.

The current Pensions Bill, if enacted, would require employers to automatically enrol most employees into saving in a pension from 2012. Employees will have the right to opt out of saving if they choose, but the Government expects that inertia will keep many more people saving for retirement. Employees who remain opted in will contribute at least 4% of a band⁸¹ of earnings, while employers will contribute at least 3% and the state at least 1% of a band of earnings - a combined contribution rate of 8% of a band of earnings.

The Government expects around 2 million more people in the private sector to be newly participating in an existing pension scheme following the Pensions Bill reforms, and a further 2-6 million people to be participating in a new national pension savings scheme, called personal accounts.⁸²

How effective employee benefit rates compare between the sectors

To compare the value of private and public sector pension schemes, the effective employee benefit rate has been calculated. This was introduced in Chapter 1 and measures the value of pension schemes to members.

There is significant diversity of pension provision within the private sector. Three stylised Defined Benefit schemes have therefore been used, with 'low', 'medium' and 'high' benefits (Table 7). These are derived based on a survey of typical benefits of DB schemes. The medium benefits scheme, for example, has the most common normal pension age, accrual rate, definition of pensionable salary, member contribution rate, level of pension increases and death in service benefit. The majority of private sector DB schemes have some of the characteristics of the medium benefits example.

The high and low benefits schemes combine the most valuable and least valuable benefits in Defined Benefit schemes, respectively. For example, the high benefits scheme combines a low normal pension age with a high accrual rate and low member contribution rate. In practice, the low, medium and high benefits schemes may not occur equally commonly in the private sector. Any

⁷⁸ Figure for 2007. TPR and PPF (2007) page 31. Estimates vary; for example, ONS (2008) Figure 2.6 suggests that only around 20% of private sector Defined Benefit schemes with a single section were open to new entrants in 2007, but response rates were relatively low for the smaller schemes. Single section schemes accounted for almost all (98%) of private sector schemes.

⁷⁹ Figure for 2007. ONS (2008) page 16

⁸⁰ PPI (2007) page 21

⁸¹ Earnings between £5,035 and £33,540 a year (2006 earnings)

⁸² DWP (2008 IA) page 48

high benefits schemes, for example, may be restricted to certain categories of employees such as senior executives or may be closed to new members, or employers may be making changes to the scheme to control costs.

Table 7:⁸³ Design of private sector DB schemes (figures in brackets show the percentage of active members who fell into the categories shown in 2007)

	Low Benefits	Medium benefits	High benefits
Normal Pension Age (NPA)⁸⁴	65 (67%)	65 (67%)	60 (30%)
Accrual rate	Lower than 60ths ⁸⁵ (12%)	60ths (73%)	Higher than 60ths (15%)
Pensionable salary	Earnings below the LEL excluded (19%)	All earnings up to the earnings cap included (over 70%) ⁸⁶	
Member contribution rate	Over 7% (23%)	5% to 7% (44%)	Under 5% or non-contributory (33%)
Pension increases⁸⁷	Statutory minimum: RPI subject to a cap of 2.5% (21%)	RPI subject to a cap that is greater than 2.5% (54%)	Full uncapped RPI (14%)
Death in service lump sum	Less than 3 times salary (4%)	Between 3 and 4 times salary (46%)	4 times salary or greater (50%) ⁸⁸

As Chart 10 shows, only around 15% of private sector employees are active members of a Defined Benefit scheme; some combination of a trust-based Defined Contribution scheme or employer-sponsored personal pension is more common. A single DC scheme has therefore been included, which represents the average of all trust-based DC and employer-sponsored personal pension provision.

The effective employee benefit rate for the 'medium benefits' private sector DB scheme is around 19% of salary for a 40 year-old man. Effective employee benefit rates are lower for the 'low benefits' scheme, at 9% of salary, but substantially higher for the 'high benefits' scheme at 32% of salary. The average effective employee benefit rate in DC schemes is currently around 7% of salary.⁸⁹

⁸³ ONS (2008). Percentages do not necessarily add up to 100% across the rows. For example, the low benefits scheme is assumed to have the same normal pension age as the medium benefits scheme (65), because very few private sector DB schemes have a normal pension age higher than 65.

⁸⁴ A further 9% of active members have an NPA of between 61 and 64 or under 60

⁸⁵ Includes 80ths plus separate lump sum

⁸⁶ The ONS report does not allow this percentage to be calculated precisely

⁸⁷ A further 4% of active members have a guarantee of the statutory minimum but fund for or target higher discretionary increases; 7% fall into an 'other' category

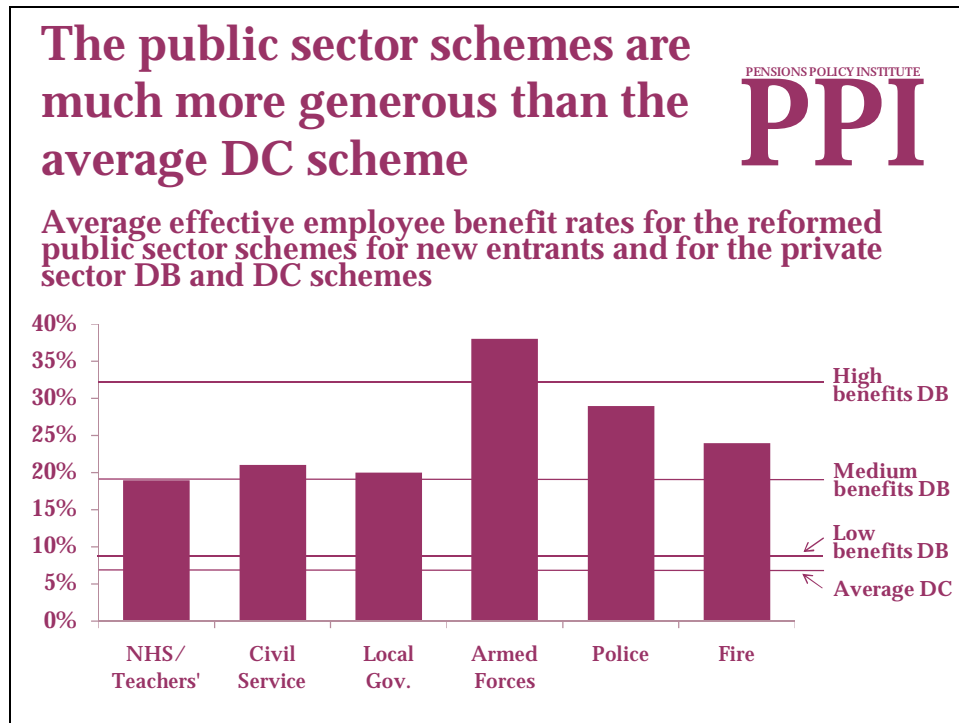
⁸⁸ The modelling of the high benefits scheme assumes a death in service lump sum of 4 times salary

⁸⁹ Overall average employer contribution rate for trust-based DC schemes and employer-sponsored personal pensions in the private sector that receive an employer contribution. PPI calculations based on ONS 2007 Annual Survey of Hours and Earnings Pensions Analysis. On the assumptions made in this report, the effective employee benefit rate for these schemes is the same as the employer contribution rate.

After the recent reforms, the four main public sector pension schemes are in line with the medium benefits private sector Defined Benefit scheme. However, as mentioned above, only around 38% of private sector Defined Benefit schemes are still open to new members.⁹⁰ The reformed public sector pension schemes are substantially more valuable than the average seen for Defined Contribution schemes, which are becoming more and more prevalent in the private sector. Chart 11 shows that:

- The four main public sector schemes (for the NHS, Civil Service, Teachers and Local Government), after the reforms, have similar average effective employee benefit rates to the medium benefits private sector DB scheme, at around 19% of salary.
- The reformed Armed Forces scheme has an average effective employee benefit rate of 38%, which is higher than the high benefits private sector DB scheme (32%).
- The Police and Fire schemes have average effective employee benefit rates that are between the medium and high benefits private sector DB schemes.
- While public sector DB schemes do not seem to be out of line with private sector DB schemes, their effective employee benefit rates are substantially higher than the average seen for DC schemes, which is around 7% of salary.

Chart 11⁹¹



⁹⁰ TPR and PPF (2007) page 31

⁹¹ PPI modelling. The effective employee benefit rates of the pre-reform Local Government, Police and Fire schemes are presented as a range in Appendix 2 to reflect different rates for short and long-serving members of the schemes. This chart uses the mid point of these ranges.

If the shift from DB to DC continues in the private sector, and the average contribution rate in DC schemes does not increase, the difference between the average pension provision of public and private sector employees may continue to grow. Note that these differences reflect employer contributions to schemes. The differences in pay between public and private sector employees, which are likely to determine how much employees can afford to contribute to pensions themselves, are considered in the next chapter.

The impact of the Pensions Bill reforms, which include auto enrolment and compulsory employer contributions, on effective employee benefit rates will depend on how individuals and employers respond. The minimum employer contribution rate of 3% of a band of earnings, is considerably below the effective employee benefit rate in public sector schemes.

Some organisations have expressed concern that employers who are already contributing to pensions may reduce their contributions to existing schemes in reaction to the increased cost they may face from the Pensions Bill reforms. The PPI has modelled a range of scenarios which show annual aggregate contributions to private pension schemes under the Pensions Bill reforms being between £10 billion higher than without reform, and £10 billion lower.⁹²

Members' face different types of risk in each sector

Members of pension schemes in the public and private sectors typically face different types of risk.⁹³ For example, most public sector schemes are Defined Benefit. In traditional Defined Benefit schemes, employers bear the risk of rising longevity, but the cost sharing and cost capping agreements made in the NHS, Civil Service and Teachers' schemes⁹⁴ mean that the risk of unanticipated future rises in longevity will be shared between employers and scheme members. In the private sector, most new schemes are Defined Contribution, where individuals bear fully the risk of low annuity rates (for example, caused by rises in longevity). Members of Defined Contribution schemes additionally face the risk of low investment returns.

In typical private sector Defined Benefit schemes, the employer bears fully the risks of rising longevity and low investment returns. The individual member bears to some extent the risk of sponsor insolvency, although the Pensions Protection Fund can provide compensation to members of eligible Defined Benefit schemes where there is a sponsor insolvency and insufficient assets in the scheme to cover a minimum level of benefit. There is very limited risk of sponsor insolvency in the public sector, since the schemes are backed by the Government, although benefits could be changed by legislation.

⁹² See PPI (2007 PA)

⁹³ For a fuller discussion of the types of risk that members of pension schemes can face, see DWP (2008 RS)

⁹⁴ Cost sharing and cost capping agreements are being negotiated for the Local Government scheme

The impact of risk on the effective employer benefit rate can be illustrated by using different assumptions for the discount rate. The central set of figures in paper use a discount rate of 2.5% real, which is an estimate of the AA corporate bond rate.⁹⁵ The effective employer benefit rate is very sensitive to the discount rate used (Table 8):

- A lower discount rate would be consistent with a lower risk scheme. For example, using the current index-linked gilt yield (0.8% real) would produce a figure of 44% for the average effective employee benefit rate of the post-reform public sector schemes. The real index-linked gilt yield has been declining, with a reduction from 1.4% to 0.8% over the last year.⁹⁶
- A higher discount rate would be consistent with a higher risk scheme. For example, using a discount rate of 3.5% real would produce a much lower average effective employee benefit rate of 14% for the post-reform public sector schemes.

The effective employee benefit rates for the private sector Defined Benefit schemes are also sensitive to the choice of discount rate: for example, the effective employee benefit rate of the medium benefits Defined Benefit scheme could vary from 12% to 39% of salary depending on the choice of discount rate.

There is a range of views on the appropriate discount rate to use when valuing pension entitlements. Most of the debate has been in the context of calculating the appropriate amount of contributions for employers to make to the schemes, rather than valuing the pension scheme to individuals. For example, the Government currently uses a discount rate of 3.5% real to calculate employer contributions under SCAPE. Proponents of using an index-linked gilt yield point out the similarities between public sector pensions and index-linked gilts, both of which are promises made by Government to make a stream of payments that are tied to level of inflation in future.

⁹⁵ This is the assumption that the Government will use to calculate the liabilities of the unfunded public sector schemes as at 31 March 2008 and was based on corporate bond rates as at 31 January 2008

⁹⁶ Watson Wyatt statistics for 31 March 2007 and 31 March 2008

Table 8:⁹⁷ Sensitivity of the average effective employee benefit rate figures to the assumption made for the discount rate

	Government assumption for public sector employer contributions (3.5% real)	AA corporate bond (2.5% real)	Index-linked gilt yield (0.8% real⁹⁸)
Reformed public sector schemes for new entrants			
Main four public sector	13%	20%	41%
Uniformed services	20%	33%	71%
Overall public sector	14%	21%	44%
Private sector Defined Benefit schemes			
Low benefits DB scheme	5%	9%	22%
Medium benefits DB scheme	12%	19%	39%
High benefits DB scheme	23%	32%	57%

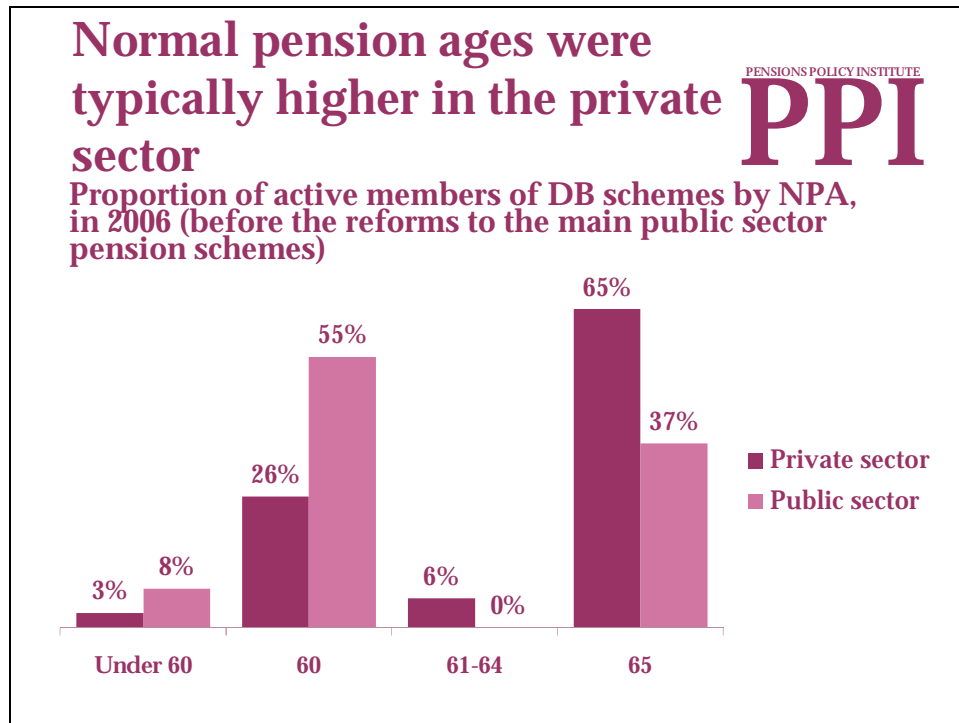
Normal pension ages are currently lower in the public sector

The Normal Pension Age (NPA) is a key determinant of the value of the schemes, and the increase to 65 for the public sector schemes is one reason why the effective employee benefit rates for the public sector schemes have been lowered by the reforms.

NPAs are typically lower for public sector Defined Benefit schemes than for private sector Defined Benefit schemes. In 2004, before the public sector schemes were reformed, the most common NPA in the public sector was 60 (55% of active members), and 65 in the private sector (65% of active members) (Chart 12). Normal pension ages were not uniformly lower in the public sector, however. A significant minority (37%) of active members of public sector schemes had an NPA of more than 60, mostly members of the Local Government pension scheme. Likewise, a significant minority (26%) of active members of private sector schemes had an NPA of 60.

⁹⁷ PPI modelling⁹⁸ Watson Wyatt statistic for 31 March 2008

Chart 12⁹⁹

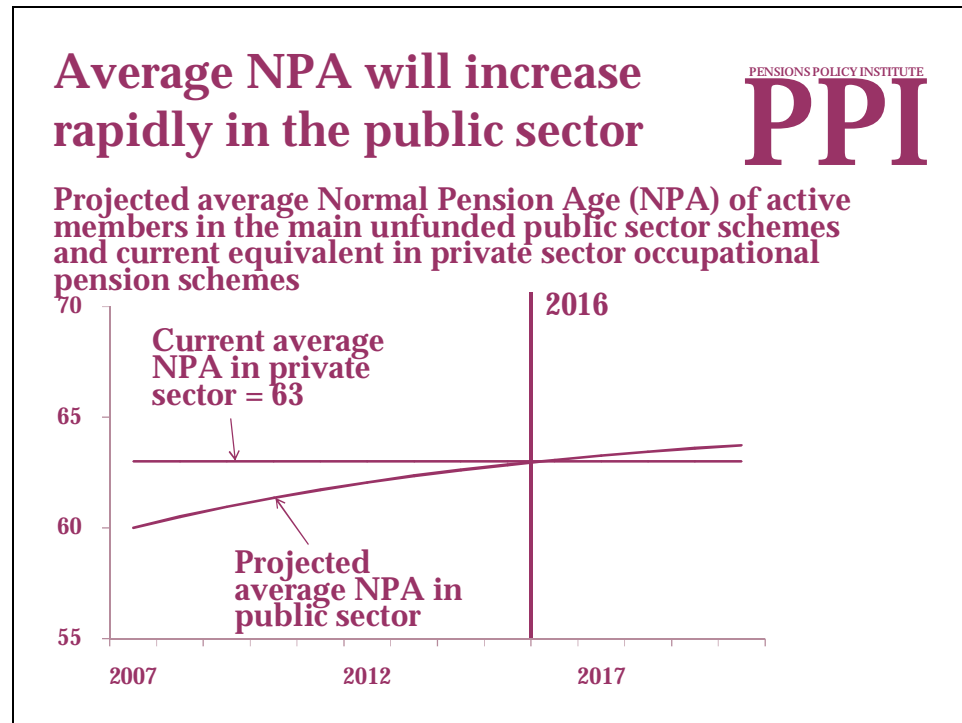


The average NPA in private sector occupational pension schemes has remained stable at around 63-64 over the last 35 years.¹⁰⁰ The average NPA of members of the public sector pension schemes will increase gradually as a result of the reforms, as current members with an NPA of 60 leave the public service and are replaced by new entrants with an NPA of 65.¹⁰¹ On one broad projection, the average NPA in the public sector could reach the current average for private sector occupational schemes by 2016, 8 years after the final introduction of the reforms (Chart 13). However, the average NPA in the private sector could also increase over the same period.

⁹⁹ ONS (2007) Table 3.23. Schemes were asked to give the normal pension age which applied to the majority of their members. Later data is available, for 2006, but has not been used since it includes the effects of some of the reforms to the Armed Forces, Police, Fire and Local Government schemes. The chart is intended to show the pre-reform situation.

¹⁰⁰ ONS (2008) Table 3.21. Includes both Defined Benefit and Defined Contribution schemes.

¹⁰¹ Normal pension ages differ in Local Government and the uniformed services schemes

Chart 13¹⁰²

Summary: Will the reforms close the gap between public and private sector pension provision?

Public sector employees are more than twice as likely to be a member of an employer-sponsored pension scheme as private sector employees: around 85% of public sector employees are members of a scheme, compared to only 40% of private sector employees. Most of the members of public sector schemes have a Defined Benefit scheme, but only around 15% of private sector employees are active members of a Defined Benefit scheme.

The value of the four main public sector schemes (for the NHS, Civil Service, Teachers and Local Government) for new entrants will be similar to a medium private sector Defined Benefit scheme, at around 20% of salary on average. The average value of a private sector Defined Contribution scheme is around 7% of salary, however, which is significantly lower than the value of the reformed public sector schemes.

The schemes for the Armed Forces, Police and Fire are worth on average 33% of salary for new entrants. They remain more valuable than medium private sector Defined Benefit scheme and are significantly more valuable than private sector Defined Contribution schemes. If the shift from DB to DC continues in

¹⁰² Illustrative PPI projection. Assumes the size of the public sector workforce remains constant. Assumes 10% annual turnover in active members, based on estimates derived from the last three years' of resource accounts for the Teachers' scheme, 2006/7, 2005/6, 2004/5. Turnover in the NHS scheme has been lower at 6-9% which would imply a slower rate of increase in NPA than shown here. No equivalent data is available for the Civil Service scheme. Note that what is relevant here is turnover of pension scheme members; staff turnover is considerably higher than these figures, since in the public sector it is possible to change employer but remain in the same pension scheme. Private sector figure is estimate from ONS (2008) Table 3.21.

the private sector, and contribution rates in DC schemes do not increase, the difference between the average pension provision of public and private sector employees may continue to grow.

Taking account of both the higher coverage of pensions in the public sector and the value of pensions in the public and private sectors, significantly more is contributed each year to pensions in the public sector than in the private sector. Employers contribute around £4,000 per year per employee in the public sector, compared to £1,600 per employee in the private sector. However, employees in the public sector also contribute more than their counterparts in the private sector.

Chapter 5: Do public sector pensions make up for lower pay?

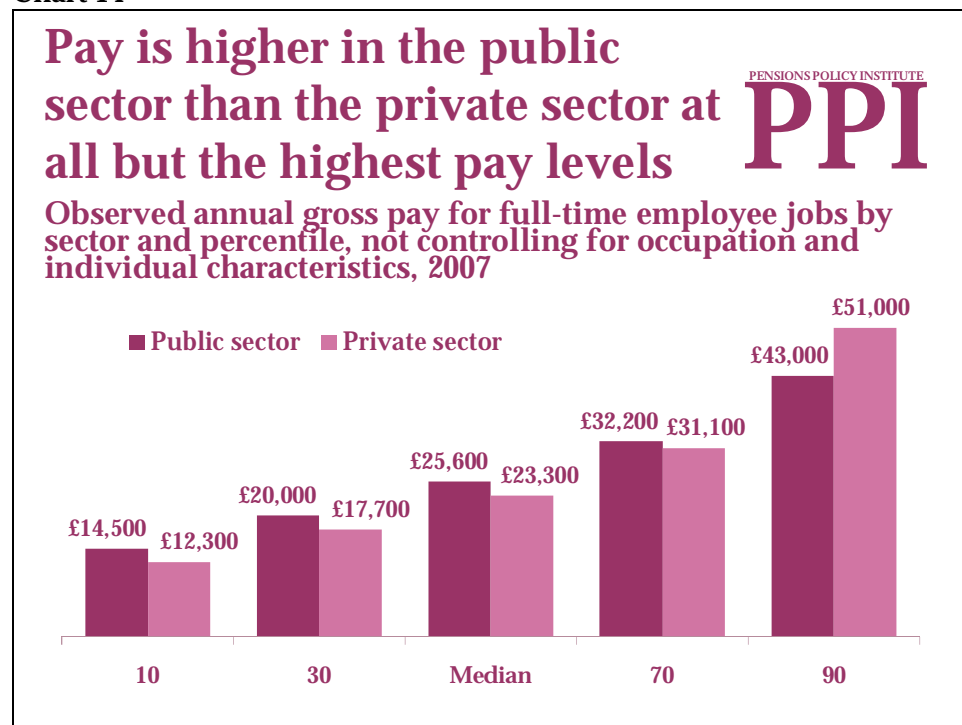
Pensions are part of a wider remuneration package that should be borne in mind when comparing the public and private sectors. It is often assumed that good public sector pension schemes make up for lower pay in the public sector. This chapter considers to what extent this assumption still holds true.

How does pay differ between the sectors?

A comparison of remuneration between the private and the public sectors is not straightforward. Different types of jobs are available in each sector and employees in each sector have different balances of skills, education, and experience. Many different types of remuneration are possible, including pay, pensions, bonuses, share schemes and private medical insurance. A wider set of considerations are also relevant, including working hours and job security.

Observed annual gross pay for full time employee jobs is higher in the public than the private sector at most levels of pay, except for at the highest pay levels (Chart 14). However, these figures do not take into account the differences in occupation or employee characteristics between the sectors. A further difference between the two sectors is that part-time work is more common in the public sector than the private sector: 32% of public sector jobs are part-time, compared to 22% of private sector jobs.¹⁰³

Chart 14¹⁰⁴



¹⁰³ ONS 2007 Annual Survey of Hours and Earnings

¹⁰⁴ ONS 2007 Annual Survey of Hours and Earnings

What explains the differences in pay between the sectors?

If median public sector pay is higher than median private sector pay, as Chart 14 suggests, some of this ‘pay gap’ can be explained by differences in the nature of the public and private workforces. For example, compared to the private sector, men in the public sector are more likely to have higher levels of education and to work in most of the occupations associated with higher pay. They are also more likely to be in a union, which is associated with higher levels of pay.¹⁰⁵

Table 9 below is based on a study for the Office of Manpower Economics that attempted to quantify to what extent differences in pay between the sectors can be explained by differences between the sectors in:

- Occupational mix, meaning the different prevalence of managerial, professional, technical, clerical, craft, personal, sales, operative and unskilled jobs between the two sectors.
- Individual characteristics, for example, differences between the sectors in the balance of age, educational level and time-spent in employer-provided training.
- Workplace characteristics, such as the presence of performance-related pay or collective pay bargaining.

Table 9:¹⁰⁶ Public to private sector pay gaps for full-time employees in 2004 (public sector less private sector)

	Males	Females
Raw pay gap (public sector pay less private sector pay)	11.7%	24.3%
Pay gap explained by differences in occupation between the sectors, as % of salary	2.6%	5.7%
Pay gap explained by differences in individual characteristics between the sectors, as % of salary	8.6%	8.8%
Pay gap explained by differences in workplace characteristics between the sectors, as % of salary	2.5%	5.2%
Unexplained pay gap (public sector pay less private sector pay)	-2.0%	4.7%

¹⁰⁵ Chatterji et al (2007)

¹⁰⁶ Chatterji et al (2007). The measure of earnings used is average hourly earnings for each employee (before tax and other deductions). Strictly, the figures are for the absolute differences in the logarithm of wages between the public and private sectors; this is approximately the same as the percentage differences in wages. Figures may not sum to totals due to rounding.

The figures above (Table 9) suggest that men working in the public sector earn 12% more per hour than men working in the private sector. However, once occupation, individual characteristics and workplace characteristics are taken into account, the study finds that average hourly pay is around 2% lower in the public sector than in the private sector for full-time male employees, in 2004. For full-time female employees, it is around 5% higher in the public sector than in the private sector.

It is important to note the limitations to analysis such as this that attempts to measure the pay gap between the public and private sectors. The methodology used is to examine to what extent observables in a dataset can be said to explain differences in pay between the sectors. These observables include occupation, individual characteristics, and workplace characteristics. Any residual difference in pay levels between the sectors that cannot be explained by these three broad sets of characteristics is assumed to constitute a meaningful 'pay gap' between the public and private sectors. However, the analysis is limited because it cannot take into account every possible factor that can explain pay, such as attitude to work, and potential differences in the levels of sex discrimination in each sector. It does not take fully into account the degree to which higher pay in the public sector may encourage a higher quality workforce, and therefore a higher quality of public services.

Skill levels

The following section presents some analysis that disaggregates Table 9 by occupation. This is available for men only. Two occupational groupings are used: highly skilled (those with a managerial, professional or technical occupation), and unskilled employees. This analysis explores how the pay gap between the sectors differs for highly skilled men compared to unskilled men. The limitations discussed earlier continue to apply.

Highly-skilled male employees earn around 5.5% more in the private sector than would be expected given their levels of education and potential experience (Table 10). Conversely, unskilled employees earn around 7.2% more in the public sector than would be expected. Note, however, that non-pension additional benefits such as bonuses and car, are not fully allowed for in the tables below.

Table 10:¹⁰⁷ Public to private sector pay gaps for full-time male employees in 2004 (public sector less private sector)

	Highly skilled (managerial, professional and technical)	Unskilled
Raw pay gap (public sector pay less private sector pay)	1.0%	14.0%
Unexplained pay gap (public sector pay less private sector pay)	-5.5%	7.2%

Long-term differences in pay

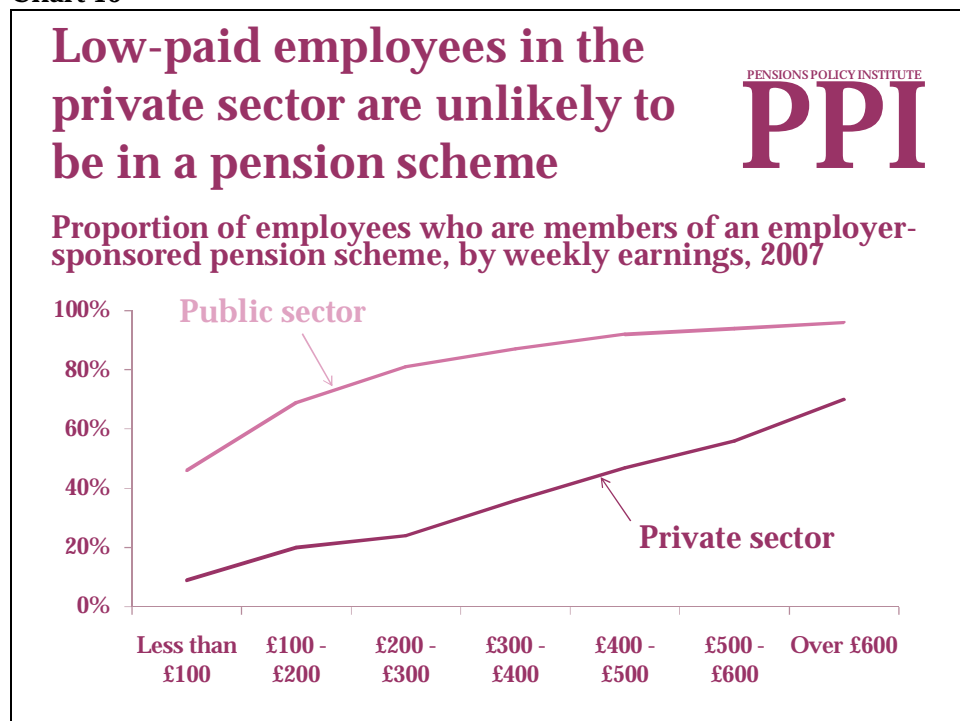
Pensions are long-term benefits, so there is an argument that a comparison of overall remuneration between the sectors should be based on long-term average levels of pay between the two sectors. There have been suggestions that the pay gap between the public and private sectors is counter-cyclical, so that differences tend to be larger in economic downturns.¹⁰⁸

Does pension provision make up for lower pay?

As mentioned in the previous chapter, public sector employees are more than twice as likely as private sector employees to be members of an employer-sponsored pension scheme. In both sectors, lower paid employees are less likely than higher paid employees to be a member of an employer-sponsored pension scheme, but levels of membership are particularly low for lower paid employees in the private sector (Chart 15). For example, around 20% of private sector employees who earn between £100 and £200 a week are members of an employer-sponsored pension scheme, compared to around 70% of similarly paid public sector employees.

¹⁰⁷ Chatterji and Mumford (2007). The measure of earnings used is average hourly earnings for each employee (before tax and other deductions). Strictly, the figures are for the absolute differences in the logarithm of wages between the public and private sectors; this is approximately the same as the percentage differences in wages.

¹⁰⁸ Disney and Gosling (1998). See also Disney and Gosling (2008).

Chart 15¹⁰⁹

Summary: Do public sector pensions make up for lower pay?

It is often assumed that better pensions in the public sector make up for lower pay. Although a job-for-job type comparison of pay is difficult to make between the private and public sectors, women and low-skilled male workers seem to be paid relatively more on average in the public than the private sector. High-skilled male workers are paid more in the private than the public sector.

The problem of lower paid employees having no employer-sponsored pension provision is less acute in the public than the private sector. For example, around 20% of private sector employees who earn between £100 and £200 a week are members of an employer-sponsored pension scheme, compared to around 70% of similarly paid public sector employees.

¹⁰⁹ ONS 2007 Annual Survey of Hours and Earnings Pensions Analysis. 'Employer-sponsored pension scheme' means a pension scheme that is arranged through an employer. Includes people with a group personal pension but not people who only have a personal pension that they arranged individually with a pension provider. Includes schemes that do not receive contributions. Figures are based on numbers of jobs and so some individuals with more than one job may be counted more than once.

Appendix 1: Calculation of the effective employee benefit rates

This paper uses the effective employee benefit rate to quantify the value to a scheme member of different forms of pension provision. This appendix describes the methodology and assumptions used for the calculation.

What is the 'effective employee benefit rate'?

The effective employee benefit rate is the amount that would be needed to 'buy' the benefits of the scheme.¹¹⁰ Alternatively, it can be considered as the extra amount of salary that an employer could have given to a member of its scheme instead of a pension, for the same employer cost, not taking into account the different treatments of pension and salary for national insurance purposes.

The size of the effective employee benefit rate will depend on the features of the scheme's design. The main features have been taken into account in this paper, including their normal pension age, accrual rate, survivors' benefits, ill-health benefits, death-in-service benefits, and, broadly, the public sector transfer club. Contributions made by members of the schemes are deducted, since these are paid by the member and are not a benefit in excess of his or her salary.

The effective employee benefit rate measures the value of the scheme to an average individual. It does not necessarily indicate the cost of the scheme to the employer, which is affected by the accounting, regulatory and tax environments. The actual rate paid by employers will also depend on any deficit in their scheme, which will need to be made up through higher employer contributions (or alternatively a surplus, which may enable employers to reduce their contributions). The level of deficit contributions is not directly relevant to the value of the pension benefits to the member, although they may affect the security of the benefits. They are not included in the definition of the effective employee benefit rate.

What has been assumed?

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.

¹¹⁰ It is the same as the 'effective employer contribution rate' used in PPI (2005)

The PPI's previous research used assumptions based broadly on the then current average set of assumptions used in the published accounts of FTSE 100 companies.¹¹¹ Since 2005, HM Treasury has begun to publish long-term cashflow projections of the future amount of benefits paid by the unfunded public sector schemes (as described in Chapter 3).¹¹² The assumptions used for these projections (which are produced by the Government Actuary's Department) are based on the actual experience of public sector schemes. They are set out in more detail than is available from the published accounts of FTSE 100 companies. Because of the extra information available, this paper uses assumptions that are based on the Treasury's projections, rather than on the published accounts of FTSE 100 companies.

The latest set of long-term cashflow projections were published alongside the 2008 Budget.¹¹³ The underlying assumptions have not been published however, and so the assumptions in this paper are based on the previous set of long-term cashflow projections, published alongside the 2006 Pre-Budget Report.¹¹⁴

Financial assumptions

Financial assumptions include the discount rate, price inflation and salary growth.

The discount rate is used to convert a projected stream of income from a pension into a single figure. The long-term cashflow projections do not require an assumption for the discount rate. Instead, this paper uses the assumption that will be made to estimate the scheme liabilities at 31 March 2008 in the pension scheme resource accounts. This is 2.5% in excess of price inflation, and is based on an AA corporate bond rate.¹¹⁵

The calculations assume price inflation of 2.75% a year, as for the resource account assumptions.¹¹⁶ Salary growth is assumed to be 1.5% a year on top of price inflation, as adopted by many actuaries in preparing figures for resource accounts. This is on top of the level of promotional increases that were assumed in the long-term cashflow projections.

¹¹¹ Pensions Policy Institute (2005)

¹¹² GAD (2007 CP). The projections cover the five largest unfunded public sector schemes.

¹¹³ HMT (2008)

¹¹⁴ HMT (2006)

¹¹⁵ HMT (2008 PES)

¹¹⁶ HMT (2008 PES)

Box A1: Summary of assumptions used

Discount rate	2.5% in excess of prices. This is the assumption that will be used to estimate the liabilities of the public sector pension schemes at 31 March 2008 in resource accounts. ¹¹⁷
Salary increases	An increase of 1.5% in excess of prices, as used to estimate the liabilities of the public sector pension schemes at 31 March 2007 in resource accounts. ¹¹⁸ In addition, the allowance for promotional increases that were assumed in the long-term cashflow projections. ¹¹⁹
In service mortality	0.04% of male active members aged 20 die each year, rising to 0.60% for those aged 60. Equivalent figures for women are 0.02% and 0.30%. ¹²⁰
Pensioner mortality	85% of the rates of mortality assumed in the official, UK population projections, as assumed in the Treasury's cashflow projections, but updated for the 2006-based set of UK population projections.
Withdrawals	8.91% of male active members aged 25 leave service each year, reducing to 3.51% for those aged 45. Equivalent figures for women are 9.45% and 3.91%. ¹²¹
Ill-health retirements	0.04% of male active members aged 20 retire each year due to ill-health, increasing to 1.8% of those aged 60. Equivalent figures for women are 0.06% and 1.8%. ¹²²
Ill-health mortality	As normal pensioner mortality, following the assumption made in the long-term cashflow projections. ¹²³
Age of retirement	Retirement (other than through ill-health) is assumed to occur at normal pension age. The potential impact of later retirement is discussed in Box A2.
Commutation	Individuals are assumed to take 70% of the maximum possible lump sum available through exchanging pension. ¹²⁴

¹¹⁷ HMT (2008 PES)

¹¹⁸ For example, NHS Business Services Authority (2007). Assumption for 31 March 2008 is not yet available.

¹¹⁹ GAD (2007 CP) Table 10

¹²⁰ GAD (2007 CP) Table 6

¹²¹ GAD (2007 CP) Table 8

¹²² GAD (2007 CP) Table 17

¹²³ GAD (2007 CP) Paragraph 10.2

¹²⁴ As assumed in the most recent actuarial valuation of the Teachers' scheme, GAD (2006 TPS)

Comparisons between the sectors

Defined Benefit schemes in the public and private sectors have been modelled using the same set of actuarial assumptions so that the value of the schemes to employees is comparable. This does not necessarily reflect the actual cost to employers because the cost of an unfunded scheme may be different to the cost of a funded scheme, and the public and private sector employers may have different borrowing costs, time preferences and face different tax regimes.

The value of any Defined Benefit pension to an individual depends on the individual's characteristics, such as their age, sex, likelihood of leaving the scheme early and the profile of their earnings over their career. Members of public and private sector pension schemes have been assumed to have the same characteristics, except that the members of the private sector schemes are assumed to have the slightly different salary growth profiles that are observed in the private sector.¹²⁵

The benefits modelled

The main features of pension schemes have been taken into account in this paper, including their normal pension age, accrual rate, survivors' benefits and ill-health benefits, on a simplified basis. This section outlines some of the assumptions that have been made.

Normal pension ages

Before the reforms, some of the public sector pension schemes operated a normal pension age that depended on length of service. This meant that some members of the schemes could retire earlier with an unreduced pension:

- **Local Government pension scheme:** Although normal pension age was 65, the 'Rule of 85' meant that individuals could retire from 50 with an unreduced pension provided that the sum of their age and years of service was at least 85.
- **The Police pension scheme:** Although normal pension age was 55 (57, 60 or 65 for higher ranks), officers could retire with an unreduced pension from the age of 50 provided they have at least 25 years' service, or from the age of 48.5 after 30 years' service.¹²⁶
- **The Fire pension scheme:** Although normal pension age was 55, a member of the Fire pension scheme could choose to retire with an unreduced pension from age 50 provided he or she has at least 25 years' service.

The calculations illustrate separately the different possibilities for normal pension ages.

¹²⁵ In line with the analysis for people of medium educational level in Disney et al (2007)

¹²⁶ This is because officers could also retire with an immediate pension, irrespective of age, after 30 years' service, when they have accrued maximum benefits. This means that an officer who joined at 18 and a half—the earliest age at which it is possible to start as a police officer—is entitled to retire at 48 and a half with a full pension.

Tiered accrual rates

Before the reforms, the Armed Forces, Police and Fire schemes operated 'tiered' accrual rates that depended on length of service. Assuming that older people have been serving longer on average than younger people, these tiered accrual rates will mean the value of the pension accrued each year will on average be higher at older ages than at younger ages. The calculations illustrate separately the different possibilities for accrual rates.

Final salary

The calculations assume that pension entitlements in the final salary pension schemes are based on salary in the last twelve months before the pension is taken. In practice, however, most final salary pension schemes use alternative measures of final salary, such as best earnings in the last x years, or the average of the best y years of earnings in the last z years (where x, y and z can vary from scheme to scheme).¹²⁷ This approximation may slightly understate the effective employee benefit rates for both private and public sector final salary pension schemes.

Survivors' benefits

The calculations assume that individuals have a 96% chance of having a partner when they die, and therefore of a survivor's benefit being payable. Survivors' benefits include survivors' pensions and lump sum payments. Men with partners are assumed to be three years older than their partners at the date of their death, and women three years younger.

The reforms to the main public sector pension schemes increased the scope of survivors' benefits in these schemes by making them payable to non-legal partners who have a financially interdependent and cohabiting relationship, as well as to married partners and registered civil partners, and by making them continue in payment even after the survivor remarries or forms another civil partnership. These improvements to survivors' benefits in the main public sector schemes are not allowed for in the calculations.

It is generally believed that the public sector has a more inclusive framework for providing 'partner' benefits than the private sector, and this difference between the private and public sectors is not shown.

Ill-health benefits

When an ill-health pension becomes payable, service is usually enhanced to reflect some or all of the remaining service that the individual could potentially have made if he or she remained to normal pension age. This enhancement is not allowed for, which will result in an underestimate of the effective employee benefit rate figures in both sectors. Note that the level of enhancement that applies in the reform public sector schemes will depend on the assessment of the appropriate tier of benefit; limited data are available of how many people will fall into the different tiers.

¹²⁷ ONS (2008) page 38

Commutation for extra lump sum

Individuals are assumed to take 70% of the maximum possible lump sum available through exchanging pension.¹²⁸ The income tax benefit of lump sums is taken into account by assuming that individuals are basic rate income taxpayers when they take their lump sum (see Chapter 2 for an illustration of the impact on higher rate income taxpayers and non income taxpayers).

Member contributions

The amount contributed by a member of a public sector scheme towards the costs of their scheme has been deducted from the total value of the scheme to derive the effective employee benefit rate. This means that increases in the member contribution rate reduce the effective employee benefit rate. Note however, that if public sector employers find it more difficult as a result of lower effective employee benefit rates to recruit and retain employees of suitable quality to deliver public services, in the long term it is possible that public sector salaries might need to rise more quickly than they otherwise would.

Public sector transfer club

The public sector transfer club is allowed for, as described in Appendix 4.

Scheme benefits not allowed for in the calculations

Some relatively small aspects of the pension scheme design are not allowed for in the calculations. These include: widows' short-term pensions, children's pensions, the temporary Immediate Pensions in the Armed Forces Scheme 1975 and resettlement grants in the Armed Forces schemes.

Tax and means-tested benefits

The calculations do not allow for tax relief on member contributions, or for the potential reduction in the value of saving that would occur if individuals retire onto the taper rate of a state means-tested benefit.

Average effective employee benefit rates

The effective employee benefit rate is calculated separately for individuals of each sex and of different ages. The figures are then averaged over the membership of each public sector pension scheme to produce an average effective employee benefit rate for the scheme as a whole. As far as available data permit, the current actual age and sex distributions of the schemes have been used for this purpose.

¹²⁸ As assumed in the most recent actuarial valuation of the Teachers' scheme, GAD (2006 TPS)

Appendix 2: Effective employee benefit rates

Tables A1 and A2 summarise the results of the effective employee benefit rate modelling for men and women in the seven main public sector schemes. Table A3 summarises the results for the private sector DB schemes used in Chapter 4.

Note that the effective employee benefit rate measures the value of the scheme to an average individual. It is not necessarily representative of the actual value to a particular individual, which will depend on individual circumstances such as salary progression and length of service and may vary widely. For example, the effects of the reforms to the Civil Service scheme depend on future salary progression (see Chapter 2).

About the ranges shown for some of the public sector pension schemes
The pre-reform Local Government, Armed Forces, Police and Fire schemes had special rules that applied to long-serving members of the schemes. These included:

- The “Rule of 85” in the pre-reform Local Government scheme, which allowed members to retire with an unreduced pension from age 60¹²⁹ if their age plus years of service added up to more than 85, and the equivalent “Rule of 75” that applied in the pre-reform Police and Fire schemes.
- Reduced accrual for people with more than 16 years of service in the pre-reform Armed Forces scheme, and accelerated accrual for people with more than 20 years of service in the pre-reform Police and Fire schemes.

These special rules in these schemes mean that the effective employee benefit rates depended on years of service as well as age and sex. Ranges are therefore shown in Tables A1 and A2, for the figures where no reform is assumed:

- The lower end of the range assumes that the individual has just joined the scheme. For example, a 40 year-old male who had just joined the pre-reform Local Government scheme could have had an effective employee benefit rate of 19.4% of salary.
- The higher end of the range assumes that the individual joined the scheme at age 20. For example, a 40 year-old male in pre-reform Local Government scheme who is at the top of the range would have 20 years of past service. This would mean he qualifies for the rule of 85 if he remains in service until age 60, and so has an effective employee benefit rate of 21.2% at age 40.

No ranges are shown for new entrants since the special rules that used to apply to long-serving members of the schemes have been abolished.

¹²⁹ Or from age 50 with employer consent

Assumptions about tiered contribution rates in some of the public sector pension schemes

The NHS and Local Government schemes have introduced tiered contribution rates. Effective employee benefit rates for members of these schemes, therefore, will vary by salary as well as age and sex. The figures shown in Tables A1 and A2 assume that the individuals pay the estimated average contribution rate. This is 6.5% of salary for the NHS scheme,¹³⁰ and 6.3% for the Local Government scheme.¹³¹

¹³⁰ NHS Employers (2007) paragraph 54

¹³¹ Quoted in UNISON (2007) page 7. Hymans Robertson have found that the average member contribution rate is higher than 6.3% of salary for the individual Local Government schemes that they advise, at around 6.5% of salary.

Table A1:¹³² Effect of the reforms on the effective value of the main public sector pension schemes for new entrants, as a percentage of salary: For men

Scheme and age	Existing members of the pre-reform schemes	New entrants to the reformed schemes	Net effect of reforms
NHS			
20	30%	26%	- 4%
30	24%	21%	- 3%
40	22%	19%	- 3%
50	23%	20%	- 3%
All ages	23%	20%	- 3%
Civil Service			
20	36%	12%	- 24%
30	30%	16%	- 14%
40	27%	20%	- 7%
50	29%	26%	- 3%
All ages	29%	21%	- 8%
Teachers'			
20	30%	26%	- 4%
30	24%	21%	- 3%
40	22%	19%	- 3%
50	23%	20%	- 3%
All ages	23%	20%	- 3%
Local Government			
20	27%	26%	- 1%
30	23%	22%	- 1%
40	19% to 21%	20%	- 1% to + 1%
50	19% to 23%	21%	- 2% to + 2%
All ages	22%	21%	- 1%
Armed Forces			
20	44%	42%	- 2%
30	38%	37%	- 1%
40	36%	36%	0%
50	28% to 37%	38%	+ 1% to + 10%
All ages	39%	38%	- 1%
Police			
20	36%	33%	- 3%
30	27% to 30%	28%	- 2% to + 1%
40	25% to 58%	27%	- 31% to + 2%
50	26% to 62%	29%	- 33% to + 3%
All ages	35%	29%	- 6%
Fire			
20	36%	28%	- 8%
30	27% to 30%	23%	- 7% to - 4%
40	25% to 58%	22%	- 36% to + 3%
50	26% to 62%	23%	- 39% to - 3%
All ages	35%	24%	- 11%

¹³² PPI modelling

Table A2:¹³³ Effect of the reforms on the effective value of the main public sector pension schemes for new entrants, as a percentage of salary: For women

Scheme and age	Existing members of the pre-reform schemes	New entrants to the reformed schemes	Net effect of reforms
NHS			
20	24%	21%	- 3%
30	20%	17%	- 3%
40	21%	18%	- 3%
50	23%	20%	- 3%
All ages	22%	19%	- 3%
Civil Service			
20	30%	12%	- 18%
30	26%	16%	- 10%
40	27%	21%	- 6%
50	30%	27%	- 3%
All ages	28%	21%	- 7%
Teachers'			
20	24%	21%	- 3%
30	20%	17%	- 3%
40	21%	19%	- 2%
50	23%	21%	- 2%
All ages	22%	19%	- 3%
Local Government			
20	21%	21%	0%
30	19%	18%	-1%
40	18% to 20%	19%	- 1% to + 1%
50	19% to 23%	21%	- 2% to + 2%
All ages	20%	20%	0%
Armed Forces			
20	36%	33%	- 3%
30	33%	31%	- 2%
40	34%	33%	- 1%
50	29% to 38%	38%	0% to + 9%
All ages	34%	32%	- 2%
Police			
20	28%	25%	- 3%
30	22% to 24%	23%	- 1% to + 1%
40	23% to 53%	25%	- 28% to 2%
50	27% to 63%	30%	- 33% to 3%
All ages	28%	24%	- 4%
Fire			
20	28%	21%	- 7%
30	22% to 24%	18%	- 6% to - 4%
40	23% to 53%	20%	- 33% to - 3%
50	27% to 63%	23%	- 40% to - 4%
All ages	27.734	20%	- 8%

¹³³ PPI modelling

Table A3:¹³⁴ Effective employee benefit rate of the three private sector DB schemes used in Chapter 4, as a percentage of salary

Scheme and age	Men	Women
Low benefits		
20	9%	6%
30	9%	7%
40	9%	9%
50	11%	11%
Medium benefits		
20	18%	14%
30	18%	15%
40	19%	18%
50	21%	21%
High benefits		
20	31%	27%
30	32%	28%
40	32%	31%
50	35%	35%

¹³⁴ PPI modelling

Appendix 3: Detailed impacts of the public sector pension reforms

This appendix explores the impacts of each component of the public sector pension reforms in more detail than in Chapter 2. As well as the higher normal pension age, improvements to accrual rates, changes to member contribution rates and a new facility to exchange pension for lump sum, which are all reflected in the calculation of the average effective employee benefit rate in Chart 4, the reforms also:

- Retarget ill-health benefits on those least likely to be able to work in future.
- Introduce new flexible retirement options.
- Widen the eligibility criteria for survivors' pensions.

These three aspects of the reforms do not necessarily change significantly the effective employee benefit rate of the scheme to an individual, and so are not taken into account in the calculations in Chart 4. However, they can have significant wider effects on individuals, and so are considered below.

Increasing normal pension age reduces the effective employee benefit rate
Up until the recent reforms, the main public sector schemes have not increased their normal pension age since their inception. The NHS, Civil Service and Teachers' schemes have almost always had a normal pension age of 60, while the Local Government scheme has always had a normal pension age of 65. As mentioned above, the Armed Forces, Police and Fire schemes have had lower normal pension ages.

As life expectancy has increased, on average individuals have spent a greater proportion of their lives in retirement. Although an increase in normal pension age amounts to a reduction in the effective employee benefit rate (of around 4% of salary for the man illustrated in Chart 4), increases in life expectancy have been increasing the effective employee benefit rate (and costs of the schemes) for decades.

As an example, some public sector pension schemes were established before 1850; over this time, life expectancy at age 60 has almost doubled for men, from 14 years to 25 years.¹³⁵ Individuals are much more likely to reach age 60 and so be eligible to receive a normal retirement pension. For example, a man aged 30 in 1850 had around a 60% chance of surviving to age 60, while a man aged 30 in 2008 has a 95% chance.¹³⁶

Normal pension age has only been increased for new entrants to the pension schemes; it will remain at age 60 for existing members for both past and future service. This reduces the effective cut in benefits for existing members (Chart

¹³⁵ Equivalent figures for women are 14 and 28. ONS unpublished database of England & Wales mortality rates, 2007.

¹³⁶ Figures rounded to nearest 5%. Equivalent figures for women are 65% and 95%.

4), but means that the pension costs of their longer life expectancies are met proportionately more by new entrants and the taxpayer.

The Government argued that *in many areas there is a demand from employees to work for longer and it is appropriate to encourage and reward that appropriately.*¹³⁷ The average age at which people took their pension in NHS Civil Service and Teachers' schemes, was 62,¹³⁸ which is higher than the normal pension age of 60. Before the reforms, enhancements were not applied for late retirement, which means that, for people who retire late, the impact of increasing the normal pension age is less than suggested by the effective employee benefit rate calculation (Box A2). The new late retirement enhancements for these schemes, while only payable from 65 and for new entrants, will be valuable for some people.

Box A2: Late retirement in the Civil Service, NHS and Teachers' schemes

Before the reforms, the Civil Service, NHS and Teachers' schemes did not enhance benefits for late retirement and members were not allowed to draw a pension at the same time as staying in their job. Members of these schemes took their pension at an average age of 62, so some people took their pension late, without an increase in their benefits to compensate them for the fact that their pension is likely to be in payment for a shorter period of time.

The effective employee benefit rate calculations in Chart 4 assumed the individuals take their pension at normal pension age. However, the increase in normal pension age from 60 to 65 has less of an effect for someone who would have voluntarily taken their pension later than age 60 under the pre-reform schemes. As an example of this effect, Table A4 shows someone who for illustration is assumed to be entitled to an annual pension of £5,000 at normal pension age:

- If he takes his pension at age 60, he would have received £5,000 under the pre-reform scheme (since 60 would have been his normal pension age) or £4,000 under the new scheme (reduced as a result of being paid early by five years).
- If he takes his pension at age 62, he still would have received £5,000 under the pre-reform scheme, since his pension would not have been enhanced for late payment. Under the new scheme, he would receive £4,400 (reduced as a result of being paid early by three years).
- Therefore, the effect of increasing the normal pension age is to reduce his annual pension by £1,000 if he takes his pension at age 60 (from £5,000 to £4,000), but only by £600 if he takes it at age 62 (from £5,000 to £4,400).

¹³⁷ DWP (2002) page 107

¹³⁸ This is the assumption adopted in the long-term cashflow projections published in the 2006 Pre-Budget Report, GAD (2007 CP) Table 12

Table A4:¹³⁹ Impact of increase in normal pension age for a person with a normal pension of £5,000 a year and the same length of service until retirement

	Takes pension at age 60	Takes pension at age 62
Pre-reform scheme (normal pension age 60)	£5,000	£5,000 (no late retirement enhancement applies)
New scheme (normal pension age 65) ¹⁴⁰	£4,000 (=£5,000 reduced for early payment by 5 years)	£4,400 (=£5,000 reduced for early payment by 3 years)
Impact of scheme reforms on pension income	Reduce by £1,000	Reduce by £600

New member contribution rates decrease the effective employee benefit rate for the average earner

Three of the four main public sector pension schemes have introduced tiered contribution rates,¹⁴¹ so that member contribution rates now depend on level of salary. At the same time, the average member contribution rate has been increased. For example, a person on average earnings in the NHS scheme will contribute around 0.5% of salary more (Chart 4).

A traditional final salary pension scheme typically redistributes from people with modest salary progression to people with rapid salary progression, and from people who have short periods of employment to people who have long periods of employment. Reducing the extent of such redistribution was cited as a reason for introducing tiered contribution rates by some of the schemes.¹⁴² The implicit assumption behind this is that individuals on low earnings are typically those with short periods of employment. An alternative mechanism to reduce the redistribution of a pension scheme is to move to a career average formula. However, only the Civil Service has done this, as discussed in Chapter 2.

Higher accrual rates increase the effective employee benefit rate

The main public sector pension schemes¹⁴³ have traditionally operated a separate pension and lump sum accrual. Members have accrued a pension of 1/80 times final salary for each year of service plus an additional lump sum of 3/80 times final salary for each year of service. The schemes now offer new

¹³⁹ PPI calculations, illustrating the impact of increasing the normal pension age and not the other aspects of the scheme reforms, for example the fact that the increase in normal pension age may mean members make member contributions for more years than previously

¹⁴⁰ Assumes an early retirement reduction of 4% a year is applied

¹⁴¹ The Civil Service has retained a single rate for all scheme members; note that member contribution rates have traditionally been lower in the Civil Service than the other schemes

¹⁴² See for example the following on the LGPS changes: CLG (2006) paragraph 4.6

¹⁴³ NHS, Teachers', Civil Service and Local Government

entrants a pension of 1/60 times final salary of each year of service, plus no additional lump sum.¹⁴⁴

Chart 4 showed that the extra pension gained from moving to the 60ths pension accrual rate is worth more than the additional lump sum given up. Indeed, since members are still able to exchange voluntarily (or ‘commute’) part of their pension for a lump sum at a defined rate, it is possible to receive the same level of lump sum while receiving a pension income that is around 8.3% higher (Box A3).

Box A3: The impact of the changes to accrual rates

As an example, Andrew retires after 20 years of service with a final salary of £24,000:

- Under the pre-reform scheme, Andrew would receive a pension of £6,000 (calculated as $1/80 \times 20 \times £24,000$) plus a tax-free lump sum of £18,000. This scenario is shown in Column A in the table below.
- Under the new scheme, Andrew would receive a pension of £8,000 (calculated as $1/60 \times 20 \times £24,000$) with no automatic lump sum. This scenario is shown in Column B.
- Andrew would be able to voluntarily commute pension for lump sum at the rate of £12 of lump sum for £1 of pension. This means he could receive the same lump sum in the pre-reform scheme (£18,000) if he gives up £1,500 of pension. If he takes this option (shown in Column C), he would have the same lump sum as in the pre-reform scheme but a pension that is £500 higher (8.3%).

Since Andrew could receive the same lump sum in the new scheme as in the pre-reform scheme but with a pension that is 8.3% higher, the change in accrual rates represent an increase in benefits.

	A) 80ths scheme with lump sum of 3 x pension	B) 60th scheme with no automatic lump sum	C) 60ths scheme if commutes pension
Andrew’s pension	£6,000	£8,000	£6,500
Andrew’s tax-free lump sum	£18,000	-	£18,000

Higher tax-free lump sums can reduce the effective employee benefit rate
 Under the reforms, existing and current members of the NHS, Civil Service, Teachers’ and Local Government schemes are now able to voluntarily exchange some of their pension for a tax-free lump sum. Members of private sector pensions have had this facility for some time.

¹⁴⁴ The Civil Service introduced this change for new entrants from October 2002

In the reformed public sector pension schemes, members can exchange pension for a tax-free lump sum at the rate of £12 of lump sum for £1 a year of pension. Since it would cost more than £12 in order to buy £1 a year of pension at current market annuity rates,¹⁴⁵ members who exchange pension for lump sum may receive back less than the cost of replacing the pension surrendered. A similar rate to £12-for-£1 is applied in many private sector schemes.¹⁴⁶

Individuals may benefit from the new arrangements if, for example, they have a strong preference for lump sum over pension or if they (or their partner) have a lower than average life expectancy. Some commentators, however, have expressed concern that some individuals may not understand the consequences of their decision to exchange pension for extra lump sum at the £12-for-£1 rate.¹⁴⁷

Taking a tax-free lump sum reduces the effective employee benefit rate by 0.5% of salary for the 40 year-old new entrant shown in Chart 4, who was assumed to have average life expectancy for the public sector schemes.¹⁴⁸ He was assumed to be a basic rate income taxpayer when he takes his lump sum and take 70% of the maximum possible lump sum.¹⁴⁹ Taking a tax-free lump sum can have a more negative effect on the effective employee benefit rate for people who are not income taxpayers, who would not benefit from the tax relief on the lump sum. It can, however, have a positive impact for higher rate income taxpayers (Table A5).

Table A5:¹⁵⁰ Effect of exchanging pension for lump sum on the effective employee benefit rate, as a percentage of salary, for a 40 year-old, male new entrant to the NHS pension scheme

	Percentage of maximum lump sum taken		
	40%	70%	100%
Non income taxpayer	- 1%	- 1.5%	- 2%
Basic rate income taxpayer	- 0.5%	- 0.5%	- 1%
Higher rate income taxpayer	+ 0.5%	+ 0.5%	+ 1%

¹⁴⁵ FSA Comparative Tables www.fsa.gov.uk

¹⁴⁶ ONS (2008)

¹⁴⁷ Letter dated 14 February 2007 from the Actuarial Profession to the Pensions Regulator and the Department for Work and Pensions
www.actuaries.org.uk/data/assets/pdf_file/0015/33702/mowp_rep_ol.pdf

¹⁴⁸ The life expectancy assumption is described in Appendix 1

¹⁴⁹ 70% is the proportion assumed in the most recent actuarial valuation of the Teachers' scheme, GAD (2006 TPS). The actuarial valuation for the NHS scheme contained less discussion of the potential impact of the reforms, which were not finalised for this scheme until after the valuations were completed.

¹⁵⁰ PPI modelling. Figures rounded to nearest 0.5% of salary.

Ill-health benefit reforms target those least likely to be able to work

The public sector pension schemes, like almost all private sector Defined Benefit schemes,¹⁵¹ allow active members to retire early in the event of ill-health and receive an immediate pension.

In 2000, a Treasury review found that, although the incidence of ill-health retirement in the public sector had been falling, ill-health retirements were still much more common in many parts of the public sector than in the private sector (Table A6).¹⁵² A relatively high level of ill-health retirement might be expected in areas of work such as the fire service where the physical demands are greater than in other careers. However, large variations were found. For example, rates of ill-health retirement varied between 11% of all retirements for some fire authorities and 93% of all retirements for others.

Table A6:¹⁵³ Ill-health retirement as % of all retirements, average 1995-2000

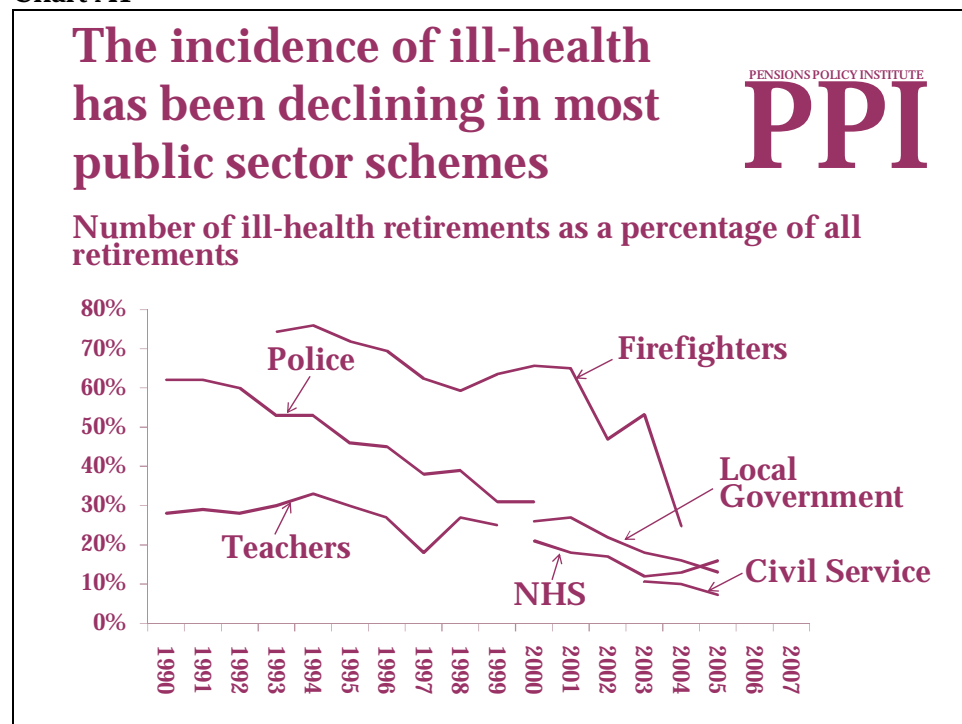
Fire	68%
Police	49%
Local Government	39%
Teachers'	25%
NHS	23%
Civil Service	22%
Armed Forces	6%
Private sector	Around 20%

The review made a series of recommendations, including improvements to workplace health and sickness management, increased use of redeployment as an alternative to ill-health retirement, tightening the gateway to ill-health retirement. Since the review, rates of ill-health retirement have fallen considerably (Chart A1).

¹⁵¹ ONS (2008) page 39

¹⁵² HM Treasury (2000)

¹⁵³ HMT Treasury (2000) Table 2, page 13 for the public sector schemes. Private sector figure is a weighted average of a survey of 26 occupational pension schemes that was conducted in 1998 by Income Data Services, Audit Commission (2000) paragraph 49.

Chart A1¹⁵⁴

The recent public sector pension reforms aim to target benefits more closely on those people least likely to be able to work in future. Before the reforms, a person's pension was enhanced if they retired due to ill-health to reflect some or all of the remaining service that the individual could have made if he or she did not have to stop work early due to ill-health. For example, in the pre-reform Local Government scheme, members might be credited with an extra six and two-thirds years of pensionable service if they retired early due to ill-health.¹⁵⁵

The style of service enhancement that used to apply assumed implicitly that after ill-health retirement individuals would never be able to work again, and aimed to compensate them for some or all of their loss of earnings. The reforms to the Local Government scheme mean that employers would be required to obtain a certificate from an independent medical practitioner stating whether in his opinion the member is likely to be able to obtain any employment again. There are three levels of benefit in the reformed Local Government scheme, depending on whether members are judged as:

1. Not likely to work again before NPA: members receive an immediate pension increased for 100% of their prospective service to NPA.

¹⁵⁴ House of Commons *Hansard*: 8 November 2006 Column 1863W; 2 November 2006 Column 594W; 7 November 2006 Columns 1003W, 1180W, 1394W; 31 January 2008 Column 579W

¹⁵⁵ The rules differed for individuals with less than 13.5 years service: service was doubled for people with 5 to 10 years' of service and enhanced to 20 years for people with 10 to 13.5 years' of service. In no event could service be enhanced beyond the total membership that the member would have had if they had continued as an active member until normal pension age, or 40 years' service, whichever was the shorter.

2. **Likely to be capable of work after a reasonable period of time:** members receive an immediate pension increased for 25% of their prospective service to NPA.
3. **Capable of obtaining gainful employment soon after the point of leaving:** members receive an immediate pension with no enhancement. Payments will cease when alternative gainful employment is found, or after three years if earlier.¹⁵⁶

The new system is expected to be more valuable than the old system for members of the pension scheme who are eligible for the first tier, and less valuable for some of the members who are eligible for the second or third tiers. Since 85% to 95% of ill-health retirements are expected to be in the second tier, the reforms are likely to reduce the cost of ill-health benefits in the Local Government scheme.¹⁵⁷ For this reason, transitional protection is proposed for the Local Government scheme which would guarantee that enhancements will be no worse than under the current scheme for some people who are aged 45 or over in April 2008.

Flexible retirement may encourage people to work longer in the public sector. Members of the pre-reform NHS, Civil Service and Teachers' pension schemes were not able to draw their pension until they left their job, although they could leave their public sector employer and work elsewhere while drawing their pension. The schemes now allow members to draw a limited amount of pension while continuing with their public sector job, provided that they reduce substantially either their hours of work or grade.¹⁵⁸ The changes may encourage members of public sector schemes to stay in their public sector job for longer, by allowing them to continue in their job while taking a pension, or alternatively they could have the opposite effect of encouraging some of them to reduce their hours more quickly than they would otherwise have done.

While it is too early to say what the balance between these effects will be, a survey has already been conducted of older existing employees in the Teachers' pension scheme,¹⁵⁹ who retain a normal pension age of 60 but who can use new flexible retirement options. Detailed awareness of the scheme changes was low,¹⁶⁰ but 27% of the teachers surveyed thought their retirement plans had definitely or possibly changed as a result of the changes. Of these, 24% considered they might stay longer in teaching as a result of the changes, but 25% anticipated retiring earlier. This suggests that the impact of the flexible retirement options on average retirement ages will probably be finely balanced.

¹⁵⁶ Recipients are obliged to notify the administering authority if they obtain employment. Administering authorities will have the power to ask recipients whether their circumstances have changed. Review is not necessary for first and second tier benefits, which are payable for life.

¹⁵⁷ CLG (2006) page 27. This figure was published before the third tier of benefits was added.

¹⁵⁸ For example, in the Teachers' scheme flexible retirement is available following a 25% reduction in salary

¹⁵⁹ Peters et al (2008). Based on a sample of 3,865 teachers.

¹⁶⁰ For example, 9% of those surveyed reported a 'detailed awareness' of the scheme changes

Appendix 4: Transfers in the public sector

Withdrawals from the public sector schemes on leaving service are treated more beneficially than in private sector Defined Benefit schemes. This is particularly relevant for younger employees: the likelihood of a 20 year-old public sector employee leaving service at some point before normal pension age, as opposed to remaining in the scheme until retirement, is over 85%, and the likelihood is still reasonably high for 40 year-olds, at more than 35%.¹⁶¹

In the public sector members who start work in another area of the public sector may find that their new and previous schemes belong to the public sector transfer club. In this situation, the member can transfer their service from the old scheme into the new scheme in such a way that preserves the link between their previous pension entitlement and the actual salary in the new scheme. This is more valuable than in the private sector, where members who leave final salary Defined Benefit schemes have their pension entitlements revalued with price inflation up until retirement, subject to a cap, which is expected to increase slower than actual salary increases. In the public sector, employees who rejoin their old scheme after a career break may be able to have the pension they accrued from their previous period of service re-linked to their salary.

No published information has been found on the number of transfers made each year within the public sector transfer club. This paper therefore makes a broad assumption that half of the members of public sector pension schemes who leave service before normal pension age, for reasons other than retirement, transfer their benefits to another public sector pension scheme under the club. On this assumption, the club increases the effective employee benefit rate of the schemes considerably: for example, a 20 year-old man new entrant to the reformed NHS scheme has an effective employee benefit rate of 25.6% of salary, but this would be only 16.6% of salary in the absence of the club (Table A7).

Figures for the Teachers' scheme are similar to Table A7. The switch to career average in the Civil Service scheme has reduced the relative attractiveness of the public sector transfer club and reinstatements for new entrants to the service. This is because pensions are revalued in line with price inflation, rather than actual salary growth, even if members remain in service. In the pre-reform schemes, the public sector transfer club was worth around 11% of salary for men or 8% for women at age 20.¹⁶²

¹⁶¹ Calculated based on the assumptions used for the calculation of the effective employee benefit rates, which in turn are based on those adopted by GAD for the long-term cashflow projections, GAD (2007 CP)

¹⁶² PPI modelling

Table A7:¹⁶³ Effective employee benefit rates for men and women new entrants to the reformed NHS scheme, as a percentage of salary

	Without the public sector transfer club	Increase due to the public sector transfer club	Total effective employee benefit rate for the NHS
Men			
20	16.6%	9.0%	25.6%
30	17.2%	3.8%	21.0%
40	17.9%	1.2%	19.1%
50	19.7%	0.2%	19.9%
Women			
20	13.4%	7.0%	20.4%
30	14.4%	3.2%	17.6%
40	17.1%	1.3%	18.4%
50	20.4%	0.2%	20.6%

¹⁶³ PPI modelling

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