PENSIONS FOR PUBLIC SERVICE EMPLOYEES IN THE UK:

LONG-TERM FINANCIAL MANAGEMENT AND REFORM OF BENEFITS

BY

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1. EXECUTIVE SUMMARY

Background

1.1 The UK government offers defined benefit occupational pension plans to its employees. Historically, a large number of private sector employers have offered similar defined benefit occupational pension plans to their employees. In recent times, there has been a trend amongst the private sector employers to close defined benefit plans and replace them with defined contribution plans. Many of those employers who have kept defined benefit plans have made changes to reduce the cost and/or the associated risks of the plans going forward.

1.2 The UK public service plans listed in Annex A are unfunded and are financed out of general tax and other revenue (with the exception of Local Government plans, which are funded). Employers and employees need to make contributions but there is no fund set aside to meet future pension liabilities. In the private sector, occupational pension plans are generally jointly funded by the employer and the employees. Contributions are put into a separate trust, the assets of which are invested to pay the benefits as they fall due.

The case for reform

1.3 There were a number of arguments put forward in favour of reforming public service plans:

- Demographic changes
- Fairness of design
- Comparison with private sector
- Cost to taxpayer.

Demographic changes

1.4 Life expectancy in the UK has increased dramatically in recent years. Paying pensions for longer is clearly more expensive. Also as birth rates have failed to keep pace with increasing longevity, therefore the number of working people for each pensioner in the UK has reduced over time, and is set to reduce further in future. This will tend to increase the per capita cost of public service pensions to future generations of taxpayers.

Fairness of design

1.5 A final salary design is more beneficial to longer serving employees and in particular to ‘high flyers’ who have rapid pay progression, and less beneficial to short servers and those with low pay rises. There is an argument that different designs, for example a career average salary approach, may provide a fairer distribution of resources to plan members.

Comparison with private sector

1.6 During the 1990s and 2000s there was a dramatic change to the pension landscape in the private sector. Many employers with final salary and other defined benefit pension plans closed them to new members and to future accrual of benefits, replacing them with less generous pension plans as detailed in paragraph 1.1. Some commentators argue that fairness dictates that public service provision should also be radically reduced.

Cost to taxpayer

1.7 The cost of public service pensions has increased from less than 1% of GDP in 1970 to nearly 2% in 2010. There is an argument that steps should be taken to reduce this cost.

Reforms

1.8 Since 2010, a number of important reforms have been made to UK public service plans:

- The inflation index used to increase public service pensions was changed from the Retail Prices Index (RPI) to the Consumer Prices Index (CPI). This would apply to future indexation for all members, including current pensioners
- Member contributions to increase by equivalent of 3% of pay, on average across the public sector, over the 3 year period from April 2012
- Changes to the benefit structure for future accrual (mostly from April 2015). These included linking pension ages to SPA and a move from final salary to CARE structures
- Introduction of a cost cap mechanism. A mechanism under which members share risks with the taxpayer, therefore, changes in costs may result in changes to member contributions or benefits for future service.

1.9 The government proposed their preferred plan design, which was set as a cost limit. Stakeholders, in respect of groups representing workers, were allowed to propose benefit structures which best suited their workforces. Design options were compared against the preferred plan design using actuarial methods to ensure it did not cost more than the preferred design.

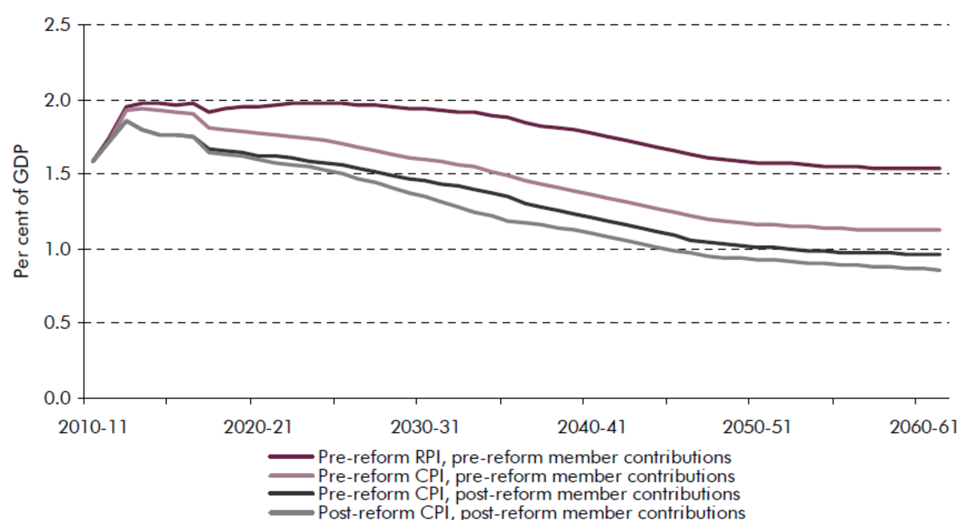
1.10 This approach provided stakeholder engagement with the reform process, and the outcome was a wide variety of different benefit designs for the different plans.

Financial management and the impact of reforms

1.11 For an unfunded plan financed out of general taxation, the cost to the taxpayer is the cash flows each year. Net expenditure is expenditure on pension benefits less income from employee contributions.

1.12 The following graph shows the projected impact of reforms on long term net expenditure (i.e. benefits less employee contributions) of the UK pension plans.

Chart A.5: Effect of reforms on net expenditure



Source: OBR, GAD

1.13 The UK pension plans also receive employer contributions. However these are primarily transactions within the public sector (from a public service employer to a public service pension plan), so they do not affect the cash flow requirements of the plans on the UK government. The employer contributions ensure that the ultimate cost of pensions is taken account of within the budgets of individual employers, as an internal budgetary control.

1.14 In addition to considering cash flow requirements, accrued liabilities and the costs of benefits accruing each year are monitored through a variety of mechanisms:

- Actuarial valuations
- A Supplementary table to the national accounts
- Fund accounts reflecting IAS 19.

Actuarial valuations

1.15 Actuarial valuations are used to:

- set employer contribution rates
- implement the cost cap mechanism.

1.16 Different considerations apply when completing valuations for unfunded public service plans as opposed to funded private sector plans. One key differential is the setting of the discount rate. Following a government consultation in 2010, it was decided to set the rate of discount in line with expected long term GDP growth. Accordingly, the rate of discount was set at the assumed rate of inflation (CPI) plus 3 per cent per annum.

1.17 GAD is simultaneously carrying out valuations of over 20 main public service pension arrangements as part of implementing the reforms. This is an unprecedented exercise, presenting a unique set of challenges.

Governance

1.18 The reform process has also involved a renewal of plan governance arrangements. This has been led by a desire to provide a more transparent system, and spread best practice as the norm across wider government practice. This has resulted in:

- a single legal framework for all plans
- introduction of Pension Boards for each plan
- oversight from the Pension Regulator.

2. INTRODUCTION

2.1 The aim of the paper is to share the UK experience with actuaries worldwide, since those charged with managing the public finances in many countries (many carrying material fiscal deficits) are already, or shortly could well be, facing similar challenges.

2.2 This paper focuses on:

> reforms to benefits and plan governance currently being introduced, and
> the calculation, and control, of the cost of public service pensions.

At the time of writing, the UK Government Actuary's Department (GAD) is carrying out actuarial valuations for over 20 public service pension arrangements. The 20 main plans cover the following employer groups; the National Health Service, Teachers, Police, Fire Fighters, Armed Forces, Judiciary, Civil Service (public servants in central government), and Local Government. For the same employer groups, some separate plans exist in England and Wales, Scotland and Northern Ireland. A list of the 20 main plans is set out in Annex A.

2.3 All of the plans listed are financed on an unfunded (pay-as-you-go) basis, except for Local Government (which is financed on an advance funded basis). No commentary is given in this paper on the advantages and disadvantages of pay-as-you-go, relative to advanced funding. Also, the financing arrangements for the Local Government plans are not considered further in this paper.

2.4 Furthermore, this paper does not include commentary on the following aspects of financial management:

> The strength of the employer covenant for employer pensions (that is, the ability and willingness of public service employers, ultimately financed by the UK taxpayer, to pay the cost of public service pensions)
> Operational and risk management of the plans, including record keeping, benefit payment, cash handling, accounting and reporting.

2.5 It is hoped that this paper proves to be a lucid account of the principles followed in completion of the benefit design and valuation analysis. Detailed descriptions of some of the practical challenges of completing the valuation of over 20 pension plans simultaneously have been excluded. Challenges such as data validation, analysis of experience, calculation checking, reporting, peer review, quality assurance, project risk management, all to be undertaken, consistently across all plans, are considerable. Exclusion of description of how this work was completed does not imply that it was straightforward. On the contrary, this paragraph is included as advice to others, who might be faced with completion of similar work, that these elements of a multi-plan valuation project should never be underestimated.

2.6 It should also be emphasised that financial management (i.e. budgeting, accounting and reporting) in the UK public sector is, in many respects, quite different from how the corresponding functions are carried out in the private sector. Compounded by the differences between the common techniques of financing defined benefit pensions on an advanced funding basis, with a private sector pension, and pay-as-you-go in the public sector, the resulting differences in financial management of pensions between the public and private sectors can be marked. It is for this reason that we include extensive commentary in chapters 6 and 7.

2.7 The figures in this report are quoted in GB Pounds (£) and are also supplied in US Dollars ($), converted using an exchange rate of 1:1.55 (£:$) and rounded as appropriate.

2.8 This paper, produced from a team effort, comprises the combined contributions from the authors listed. Of equal importance are the contributions made as constructive challenge by peer reviewers, inside GAD as well as from outside. We are indebted to them all. Our thanks are due to Terry Jones for her patience in deciphering drafts and alterations, and converting them to a rational format. Finally, the team is indebted to Paul Butcher who has shouldered the burden of converting a group of disparate chapters, written by different authors, into a single style, hopefully clear and coherent for the reader.

2.9 One of our objectives in writing this paper is to produce an informative, helpful and clear account of the techniques applied to monitor and control the costs to the UK taxpayer of public service pensions.

2.10 The paper covers the following:

- Chapter 3: The UK Pension environment
    a. The current state pension arrangements and proposed future changes
    b. Background and overview of occupational public service pension plans; and
    c. Background and overview of occupational private sector pension plans.

- Chapter 4: The case for reform
    a. The decline of private sector pension provision
    b. The arguments for public sector pension reform; and
    c. The key reforms that have taken place.

- Chapter 5: The reforms and their impact
    a. The key recommendations of the Hutton Commission
    b. How the recommendations have been implemented
    c. The reform process; and
    d. The impact on employees' benefits.

- Chapter 6: The financial management of the unfunded arrangements for public service employees in the UK
    a. The financial implications of the new plans
    b. Projections of cash flows
    c. Employer contributions
    d. Treatment of pension expense in the annual budget for public expenditure
    e. Management of long-term costs within government, including expenditure of magnitude and volatility; and
    f. Incorporation of pension expense in whole of government accounts.

> Chapter 7: The actuarial methods and assumptions used to calculate the liabilities and required contributions to finance pensions for UK public service employees

a. A summary of the valuation process
b. A description of the method used to set employer contributions (the SCAPE method - Superannuation Contributions Adjusted for Past Experience)
c. A summary of the actuarial valuation method used
d. How the economic and demographic assumptions are set; and
e. A summary of the cost cap mechanism.

> Chapter 8: The governance and regulation of public service pensions

a. Current government arrangements
b. The working protocol of the interaction among various stakeholders across government
c. The arrangements for non-departmental public bodies; and
d. The possible future for the governance of public service plans.

> Chapter 9: Concluding remarks covering:

a. Observations about capturing the savings
b. Questions about pension design for the future
c. Some practical challenges and how we overcame them; and
d. Why we wrote this paper.

3. UK PENSION ENVIRONMENT

This chapter:
- provides a high-level introduction into the pensions environment in the UK
- gives an overview of typical benefits provided by the state and through occupational pension schemes, and
- includes a summary of the key elements of pension provision in both the private and public sectors, highlighting how these benefits are financed.

The state pension

3.1 The state pension represents the first tier of retirement income in the UK. The first state pension was introduced in the UK in 1909 which consisted of only means tested non-contributory benefits. A universal, contributory system was introduced in 1948 in the form of the basic state pension. The current state pension consists of two parts:

- The basic state pension
- An additional state pension.

Current system

Benefits

3.2 The basic state pension is a flat-rate pension and in 2013-14 provides an individual with income of around £5,700 a year ($8,800) payable from state pension age[1]. This represents around 20% of national average earnings in the UK.

3.3 Individuals are eligible to receive the full basic state pension provided they have paid (or are credited with having paid) National Insurance contributions for at least 30 years. Those with an insufficient contribution record receive a proportionately smaller basic state pension.

3.4 In the additional state pension, or state second pension, accrual is based on tiered levels of pay (up to a maximum upper accrual point – annual earnings of around £40,000 [$62,000]). The target level of pension at retirement is 40% of lower band earnings (up to £5,700 [$8,800]) and 10% on earnings above that up to the upper accrual point[2]. Plans that meet a minimum standard can opt out of the state second pension.

3.5 To maintain the real value of pensions in retirement, basic state pensions are increased annually by the higher of the increase in national average earnings, inflation (currently CPI) or 2.5%. Additional state pensions are increased annually in line with inflation (CPI).

3.6 Additionally, the state provides a means tested benefit known as pension credit. This comprises two parts:

- Guarantee credit – provides a minimum level of weekly income for people over a certain qualifying age
- Savings credit – provides extra income for those who have attempted to save for their retirement above the basic state pension and who have a modest amount of income or savings.

Funding

3.7 Although employees make contributions towards the state pension, it is an unfunded arrangement and benefit outgo is met from general tax receipts. As a 'pay as you go' arrangement, a cash flow 'strain' will arise if the ratio between the number of pensioners and the number of contributors of working age increases over time.

Future planned changes

SPA

3.8 Pensions provided by the state are payable from state pension age (SPA). Historically, up until 2010, the state pension age was 60 for women and 65 for men. Women's state pension is currently being equalised with that for men, so that women's state pension age will reach 65 by late 2018. Also, in response to significant improvements in life expectancy, recent changes in legislation mean that future state pension ages will be gradually increased to age 68 by 2046.

3.9 The UK government has outlined in a policy paper on the future of the state pension[3] a structured framework within which to consider changes to SPA in the future.

- The UK government will carry out a review of the SPA every five years
- These reviews will be based around the principle of maintaining a given proportion of adult life in receipt of state pension
- The review will be informed by:
    a. analysis from the Government Actuary's Department on the proportion of adult life individuals in the future can expect to spend in receipt of state pension
    b. an independently-led body, commissioned to produce a report on the wider factors that should be taken into account when setting SPA, such as variations in life expectancy
    c. this review framework will seek to provide a minimum of ten years' notice for individuals affected by changes to SPA.

Single tier pension

3.10 The government has announced plans to replace the current system with a single flat rate pension for everyone after 2016. The amount of the flat rate pension will be broadly equivalent to the combined pension currently available from the basic state pension and the average additional state pension[4] (around £7,500 pa [$11,250] – around 28% of national average earnings).

Occupational pension plans

Public service pension plans

Background

3.11 The state provides the vast majority of public service employees with access to a defined benefit pension plan.

3.12 The first pension plan for civil servants was set up in 1810, and by 1909 a basic benefit structure was established which would last almost a century – a pension for life equal to one-eightieth of final salary for each year of service, plus a lump sum at retirement equal to three times the annual pension[5].

3.13 Pensions for some dependants on a member's death were introduced in the 1940s, along with pension increases in some years to provide partial protection against inflation and full indexation of pensions to protect against inflation was introduced in the 1970s.

3.14 Plans for other public sector workers generally followed a broadly similar 'final salary' design. This was the position at the end of the 20th century.

3.15 There are a number of different plans, each with their own benefit design. The largest public service plans are as follows:

> National Health Service
> Armed Forces
> Civil Service
> Teachers
> Police
> Fire-fighters
> Local Government.

Benefit design

3.16 As mentioned in 3.12, until the 21st century a typical public service plan would provide benefits based on one-eightieth of final salary for each year of membership, plus an accompanying (tax-free) cash lump sum of three times the pension amount. This was thought of as broadly equivalent to the typical private sector accrual based on sixtieths of salary. The standard normal retirement age was 60, unless it was appropriate to have a lower retirement age due to the nature of employment (for example for the armed forces, fire-fighters or police).

3.17 In payment and in deferment (after leaving service and before retirement) there is an inflationary link to protect the real value of benefits over the long term.

3.18 Over recent years, in response to rising pension costs and political pressures, plans have altered their benefit designs, particularly for new entrants. This has seen the net value of employer financed benefits to the employee reduce through one or more of:

> increases in retirement age
> reduction in the quantum of benefit and
> increase in the contribution required from the member.

Funding

3.19 Aside from Local Government plans, public service plans are unfunded and are financed out of general tax revenue. Employees need to make contributions but there is no fund set aside to meet future pension liabilities.

Scale of pensions[6]

3.20 In 2012, for public service pension plans there were approximately 5.1 million individuals actively contributing towards a pension, 4.4 million in receipt of a pension and a further 3.7 million with preserved entitlements. The vast majority of these are in the 20 plans listed in Annex A.

3.21 By contrast, in 2012, for private sector plans, there were approximately 2.7 million individuals actively contributing towards a pension, 5.2 million in receipt of a pension and a further 6.5 million with preserved entitlements.

Private sector

Background

3.22 The state encourages employers to provide pension benefits for their employees by allowing tax privileges for pension contributions. In order to qualify for tax concessions, employers are required by legislation to comply with a number of rules, including a requirement to establish their occupational plans as separate trusts.

3.23 Historically private sector plans showed a wide variety of benefit structures to cater for the needs of different employers and workforces. As well as final salary, there were average salary, money purchase and flat rate plans.

3.24 During the 1960s and 1970s, private sector plan membership shifted predominantly to final salary plans[7]. By the 1980s, there was substantial consistency between private and public sector pension provision.

3.25 Pension provision has not been compulsory in the UK, although until 1986 employers providing occupational pension scheme could compel their employees to join the plan and recent legislation will mean that all employers will be required to enrol employees automatically into an employer plan.

Defined benefit plans

3.26 As mentioned in 3.23, a large number of UK employers offered their employees access to a defined benefit occupational pension plan, often based on final salary. In such an arrangement, the employee was typically promised a pension of a fixed proportion of their salary in the period leading up to retirement. The proportion would depend on the number of years of service with the employer. A wide range of benefits can be provided according to an employer's objectives. A typical accrual rate is one-sixtieth of final salary for each year of membership, with a normal retirement age of 60 or 65. Broadly speaking, this would be expected to yield a net replacement ratio of 2/3rds in retirement after a 40 year career.

3.27 In payment and in deferment there is often an inflationary link to protect the real value of benefits over the long term, although most have not provided uncapped indexation.

Funding

3.28 UK occupational pension plans are generally jointly funded by the employer and the employees. Employees usually pay (tax-free) contributions – typically at a fixed rate, for example, 6% of their salary. Contributions are put into a separate trust, the assets of which are invested in line with an investment strategy designed by the plan's trustees to meet their stated objectives. Those objectives will usually be driven by the nature of the pension liabilities.

3.29 Legislation requires that actuarial valuations are carried out every 3 years to assess the plan's funding position. With recent increases in longevity, reductions in interest rates and poor returns in equity markets in some years, many employers have been faced with significant and volatile plan funding deficits, requiring additional contributions from employers.

Defined contribution plans

3.30 Defined contribution plans first came to prominence in the UK during the 1980s. Over recent years, many employers have closed their defined benefit plans to new members, and established defined contribution plans instead. These plans were typically introduced for two reasons; firstly that they were expected to involve lower costs with correspondingly lower benefits, secondly that risks such as longevity and investment were passed on to the member. Under these arrangements, the employer (and often the employee) makes regular payments (typically a percentage of salary) into a pension fund, and the fund is used to buy an annuity when the employee retires. The amount of annuity depends on the performance of the invested assets up to retirement and annuity rates available at retirement.

3.31 In 2012, out of an estimated 2.7 million active members, in private sector occupational pension plans, 1.0 million (37%) were in DC arrangements[6]. This does not cover personal pensions, where individuals enter into a contract with a pension provider (usually an insurance company). This exclusion extends to group personal pensions, stakeholder pensions and membership of NEST, the National Employment Savings Trust.

3.32 All UK employees with earnings above a minimum must now be automatically enrolled into a workplace pension plan. Such a pension plan must provide benefits above a minimum threshold. NEST was recently established by government for any UK employer to use as a defined contribution retirement savings vehicle for employees who are not already in, or do not have access to, a qualifying pension plan.

Sources:

1. Government website
   https://www.gov.uk/state-pension
2. Government / Tax office website
   https://www.gov.uk/additional-state-pension/eligibility# / http://www.hmrc.gov.uk/rates/nic.htm
3. Chapter 6 of the policy paper on single-tier pension
   https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/181229/single-tier-pension.pdf
4. Policy paper on single-tier pension
   https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/181229/single-tier-pension.pdf
5. Civil Service Pension Scheme - Commons Library Standard Note
   http://www.parliament.uk/briefing-papers/SN03224
6. Office for National Statistics: Occupational Pension Schemes Survey, 2012
   http://www.ons.gov.uk/ons/rel/fi/occupational-pension-schemes-survey/2012/stb-opss-2012.html
7. Chapter 3 of First Report of the Pensions Commission
   http://www.webarchive.org.uk/wayback/archive/20070802120000/http://www.pensionscommission.org.uk/publications/2004/annrep/index.html

4. THE CASE FOR REFORM

This chapter:
- sets out the background to public and private sector pensions before reform
- sets out the main arguments for reform, broadly categorised as demographic, fairness, private sector comparison and cost
- describes the key reforms already made up to 2010.

Decline of private sector pension provision

4.1 During the 1990s and 2000s there was a dramatic change to the private sector pension landscape at a rapid rate. Many final salary and other defined benefit pension plans were closed to new members and to future accrual of benefits. By 2011 around 80% of private sector defined benefit pension plans were closed to new members[1].

4.2 There were many developments contributing to the closure of defined benefit pension plans in the private sector. In general, these served to increase the real or perceived costs and risks of funded defined benefit pension provision and thus made it less attractive to private sector employers. Some factors were specific to funded defined benefit plans, for example:

> Member protection measures including:
  - rules to prevent solvent employers terminating their pension plans without paying benefits in full
  - a Pension Protection Fund, funded by levies on plans, to protect members where the employer becomes insolvent
  - a more onerous burden on trustees of plans, including member representation, and knowledge and understanding
  - a minimum funding requirement, subsequently replaced by a 'scheme-specific funding regime', introducing more stringent supervision of funding which takes into account the strength of the employer covenant (the ability and willingness of the sponsoring employer to pay contributions).

> The removal of advance corporation tax credits on equity dividends[2], previously received by pension funds

> A move to market valuation of pension fund assets

> Equity market volatility

> A trend towards holding more bond investment, compared to equities, reducing expected long term investment return and volatility but increasing required contributions

> Company pension accounting rules requiring liabilities to be measured based on corporate bond yields.

4.3 Other factors applied equally to unfunded public service plans, for example:

> Increasing longevity without a corresponding change in retirement age, so that pensions are on average paid for a longer period

> Gradual increases in the compulsory elements of the benefit package, for example inflationary indexation of pensions and equal treatment on grounds of gender.

4.4 In most cases closed defined benefit plans in the private sector have been replaced by defined contribution plans, mostly of lower value. This change shifts the risk dramatically from employers to members. There has been much talk about 'risk-sharing' approaches, for example the 'defined ambition' idea proposed by UK Minister for Pensions Steve Webb MP[3], but to date few such plans have been set up.

4.5 Of the remaining defined benefit plans in the private sector, many now have a career average salary rather than a final salary design[4].

4.6 The decline in pension provision in the private sector was recognised in the 'auto-enrolment' policy initiated by the government. From 2012, most workers without existing pension provision, unless they opt out, will have to be enrolled in a pension plan meeting certain minimum standards. A government-backed defined contribution vehicle, NEST, is being set up to make a pension vehicle available in such circumstances.

Arguments for public service pension reform

4.7 The main arguments for reform can be considered under the following headings:

- Demographic changes
- Fairness of design
- Comparison with private sector
- Cost to taxpayer.

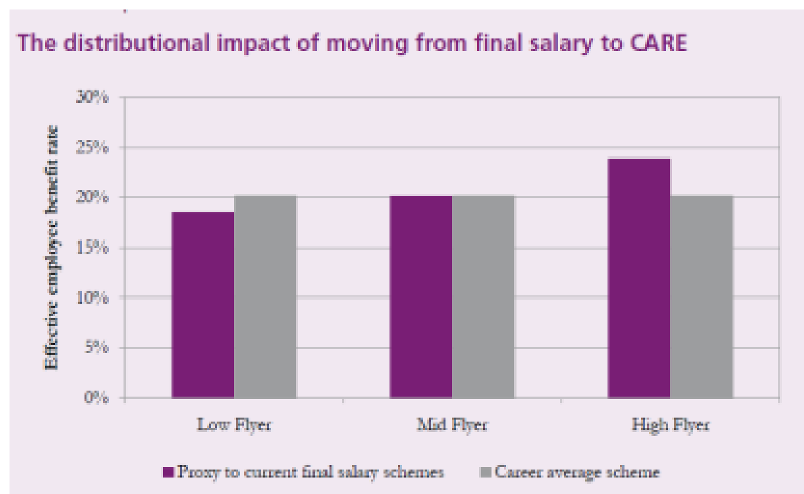
Demographic changes

4.8 Life expectancy in the UK has increased dramatically in recent years. For example, the average life expectancy for a 60-year-old retiring in the early 1970s was 18 years[5]. By 2010 this had increased to around 28 years. Paying pensions for longer is clearly more expensive.

4.9 In addition, the 'pensioner support ratio' (number of working people for each pensioner) in the UK has reduced over time as birth rates have failed to keep pace with increasing longevity, and is set to reduce further in future. This will tend to increase the per capita cost of state and unfunded public service pensions to future generations of taxpayers. The factors influencing per capita cost include labour market participation at older ages, changes to the working patterns due to care for dependents (including children) and education participation at younger ages.

Fairness of design

4.10 A final salary design is more beneficial to longer serving employees and in particular to 'high flyers' who have significant pay progression across their careers, and less beneficial to short servers and those with low pay rises. There is an argument that different designs, for example a career average salary approach, may provide a fairer distribution of resources to plan members. This has been illustrated by the chart below which was in the final Hutton Commission report[6]. This shows the effective employee benefit rate, the value of the pension benefit, net of employee contributions, accrued annually by an average member of the scheme expressed in terms of a percentage of pay, for both a proxy to the existing final salary plans and an example CARE plan.



Comparison with private sector

4.11 In recent years the stability of public service pension provision has frequently been contrasted with the rapid decline of defined benefit provision in the private sector discussed above. Some commentators have argued that as private sector provision has fallen away, fairness dictates that public service provision should also be radically reduced.

4.12 The factors listed in 4.2 is contributing to the decline in private sector pensions but are due to costs and risks associated with their funded nature, and do not necessarily apply in the same way to unfunded public service plans.

4.13 Various attempts have been made to compare the value of the total employee reward package (including pension) between private and public sector workers[7]. These comparisons are always problematic, because few direct comparator groups exist and because assumptions need to be made about the value of defined benefit pensions.

Cost to taxpayer

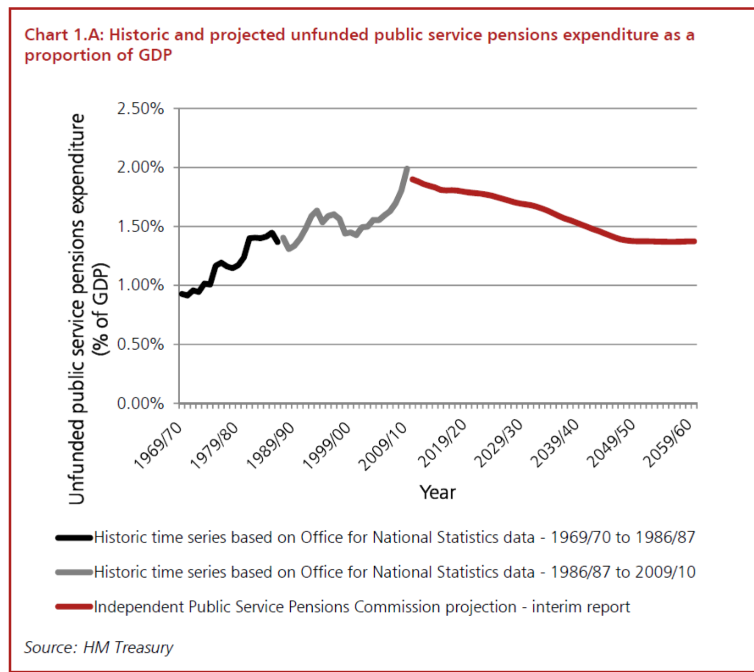
4.14 For unfunded public service pension plans, the cost of paying benefits is met by a combination of contributions from members and revenue from general taxation.

4.15 For many plans, member contributions did not increase significantly over the second half of the 20th century. Meanwhile, the expected cost of plan benefits, and hence the cost met by the taxpayer, increased due to:

> increases in life expectancy and reductions in pensioner support ratio as described above

> improvements to benefits payable, for example indexation of pensions.

4.16 When some plans were designed the intention was that member contributions should cover a certain proportion (e.g. one-third) of the cost and by the end of the 20th century this was often no longer the case. The chart below[8] shows the increases in the cost of public service pensions over the past 30 years, from less than 1% of GDP in 1970 to nearly 2%. It also shows that spending on public service pensions began to fall, as a result of reforms up to when the interim IPSPC report was published (7 October 2010), including the change from RPI to CPI (see 4.26).



4.17 Employers are charged contributions for participating in unfunded public service plans. The intention is that this charge represents the cost to the taxpayer of paying pension benefits. There has been much debate about how employer contributions should be calculated. Some proposals have included calculating contributions by reference to government bond yields or using an approach consistent with private sector plans. The UK government consulted on this question in 2010-11 and concluded in March 2011 that the most appropriate approach was to calculate employer contributions by reference to assumed long term growth in UK gross domestic product[9]. There is further information on this in chapter 7.

Pre-2010 reforms

4.18 From 1997, the UK government began a modernisation program[5]. Changes in plan design were implemented between 2005 and 2008. These varied between different public service plans, but the key changes were as follows:

- Increase in normal pension age from 60 to 65 for new entrants only (although lower pension ages remained in the uniformed services)
- For civil servants, a change to a career average salary design rather than final salary (for new entrants only)
- Removal of the separate retirement lump sum for most plans. The pension accrual rate was increased (e.g. from 1/80ths to 1/60ths of pay) to compensate. A retirement lump sum was still available by electing to give up part of the pension, in exchange for a lump sum
- For NHS and local government workers, the introduction of a tiered scale of employee contributions so that higher earners contribute a higher percentage of their pay.

4.19 In addition, in some plans (civil service, NHS, teachers and local government), arrangements were introduced for controlling the cost of the plans to the taxpayer. The intention was broadly to stop costs rising significantly from their level around 2005 when agreement was reached. These arrangements were known as 'cap and share' reforms.

4.20 Under cap and share, the intention was that a cap on employer contributions would be set. At subsequent actuarial valuations, changes in the cost of the plan would typically be shared between employees and employers up to the level of the cap, and borne by employees above the cap. This could mean that if the expected cost of the plan increased (for example owing to unexpected increases in life expectancy or high pay growth) employees would either pay higher rates of contributions or receive lower benefits for future service, to control the cost to the taxpayer.

4.21 Certain cost pressures would not be borne by employees, for example changes in the financial assumptions set by the UK government for calculating the costs of the plans.

4.22 In practice, cap and share reforms were never tested. They were overtaken by more sweeping reforms before the first actuarial valuations on these principles had been completed.

Post-2010 reforms

4.23 When a new government came to power in 2010 it quickly took further action in connection with public service pensions.

4.24 In its first Budget in June 2010[10], it announced that the inflation index used to increase public service pensions would change from the Retail Prices Index (RPI) to the Consumer Prices Index (CPI). This would apply to future indexation for all members, including current pensioners. The legislation providing for indexation did not specify the measure of price inflation that was to be used (i.e. it is not required to be RPI).

4.25 RPI and CPI are calculated using different methodologies and include different baskets of goods. Because of these systematic differences RPI has generally been significantly higher than CPI in the past and this is expected to persist in future.

4.26 The impact on plan benefits of this change is most significant for former members with deferred pension entitlements and for members of career average plans (notably the civil service), for whom inflation indexation applies both before and after retirement. In some cases the reduction in expected benefit value could be 30% or more. For current pensioners the reduction in expected benefit value could be of the order of up to 20%.

4.27 The same policy change was also applied to the indexation of many state benefits and tax credits. The UK government estimated that the combined annual savings (state benefits, tax credits and public service pensions) would reach £6 billion ($9 billion) by 2014-15[11].

4.28 The June 2010 Budget also announced that Lord Hutton of Furness would lead an Independent Public Service Pensions Commission to report and make proposals on public service pensions. The Commission produced an interim report on 7 October 2010 and a final report on 10 March 2011.

4.29 The Commission's interim report concluded that in the short term there was 'a rationale for increasing member contributions to ensure a fairer distribution of costs between taxpayers and members'[12]. Following this, the UK government announced in its October 2010 spending review that progressive changes to the level of employee contributions would be phased in from April 2012 over three years[13]. These contribution increases would be equivalent to 3% of pay on average and would lead to a saving of £1.8 billion ($2.8 billion) a year by 2014-15[14]. This is discussed further in Chapter 6.

Sources:

1. NAPF Annual Survey 2011
http://www.napf.co.uk/PolicyandResearch/DocumentLibrary/0206_NAPF_Annual_Survey_2011.aspx
2. HMRC consultation on removal of Advanced Corporation Tax
http://www.hmrc.gov.uk/feedback/ctfeed.htm
3. DWP consultation on workplace pensions
https://www.gov.uk/government/consultations/reshaping-workplace-pensions-for-future-generations
4. ONS Pension Trends (Chapter 6: Private Pensions, 2013 Edition)
http://www.ons.gov.uk/ons/rel/pensions/pension-trends/chapter-6--private-pensions--2013-edition/art-chp6-2013.html#tab-Participation-in-private-pensions
5. Public service pensions history section of the Interim Hutton Report
http://www.nhsbsa.nhs.uk/Documents/Pensions/hutton_pensionsinterim_071010.pdf
6. Box 3D of the Final Hutton Report
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/207720/hutton_final_100311.pdf
7. Hutton Fair Pay Review and ONS survey
http://webarchive.nationalarchives.gov.uk/20130129110402/http://www.hm-treasury.gov.uk/d/hutton_fairpay_review.pdf and
http://www.ons.gov.uk/ons/dcp171776_288081.pdf
8. Page 7 of Good Pensions That Last
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/205837/Public_Service_Pensions_-_good_pensions_that_last._Command_paper.pdf
9. Discount rate consultation response
http://www.hm-treasury.gov.uk/d/consult_discount_rate_summary_responses.pdf
10. Budget 2010
http://www.direct.gov.uk/prod_consum_dg/groups/dg_digitalassets/@dg/@en/documents/digitalasset/dg_188581.pdf
11. Note 22 of Table 2.1 of Budget 2010
http://www.direct.gov.uk/prod_consum_dg/groups/dg_digitalassets/@dg/@en/documents/digitalasset/dg_188581.pdf
12. Interim Hutton Report
http://www.nhsbsa.nhs.uk/Documents/Pensions/hutton_pensionsinterim_071010.pdf
13. Spending review 2010
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/203826/Spending_review_2010.pdf
14. Table 3 of Spending review 2010
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/203826/Spending_review_2010.pdf

5. THE REFORMS AND THEIR IMPACT

This chapter looks at:

- the key recommendations of the Hutton Commission, which the UK government accepted in full
- how the recommendations are being implemented, and
- the reform process.

Key recommendations of the Hutton Commission

5.1 The Commission said that it should be:

'possible for public service employees to continue to have access for the foreseeable future, to good quality, sustainable and fairer defined benefit pension schemes.' and *'Pension reform should not be a race to the bottom'*

5.2 Within this aim the Commission's key recommendations were:

> Pension promises that have been made must be honoured

> Existing plans be replaced by career average defined benefit plans with all active members of the current plans moving over to the new plans for future accrual from a suitable date. This was described as 'the fairest way of spreading effect of reform across generations and ending bias against low-flyers'

> NPA linked to SPA and tracking planned future changes to rebalance proportion of life spent in retirement. With exceptions for uniformed services where NPA 60 was recommended

> Establish cost ceiling setting limit of amount taxpayers contribute – with automatic mechanism to bring costs within this (later known as the cost cap mechanism)

> Stronger governance.

Implementation of the key recommendations

Pension promises that have been made must be honoured

5.3 Pension lawyers and actuaries are very familiar with the concept of 'accrued rights'. In most situations relating to UK pensions, these are rights to which a member would have a continuing entitlement should the plan be withdrawn for future service. The protection proposed by Lord Hutton, and being implemented by the reform process, goes further than this with benefits for service in the existing plans continuing to be linked to a member's pay whilst they accrue further benefit in the reformed plans. This creates a new status of 'member' within pre-reform public service pension plans i.e. members with continued pay linkage contingent on continued active membership of a 'connected' plan. Considerable changes are necessary to implement the protection including primary legislation (to establish the 'connection'), secondary legislation (to set out the detailed application for particular benefit events) and fundamental changes to administrative processes.

Career average defined benefit plans

5.4 The Commission did not make a recommendation regarding the precise nature of the career average plan to be implemented, however, it did recommend that increases in average earnings should be used to revalue the benefit for active plan members. In reality, plans were allowed to adopt different approaches for the revaluation for active members. This was done as part of the cost ceiling process as discussed in paragraphs 5.10 to 5.14.

5.5 The (average) rate of member contribution payable to the new plans was set by reference to existing plan contribution rates, and in recognition of the increases imposed by government before the Commission reported. Thus significant variations in member contributions continue to apply across the public service. This is in recognition of historic pay negotiations which have typically reflected workers' overall remuneration.

NPA linked to SPA and tracking planned future changes to rebalance proportion of life spent in retirement

5.6 The Commission recommended that the cost of public service pensions could be limited by managing the proportion of members' life spent in retirement. This provision is being implemented consistently across all the reformed plans (subject to specific exemptions for uniformed services) by linking the normal pension age for all benefits accrued in the reformed plans (i.e. all service after 2015) to a member's state pension age (SPA) at the time benefits are taken. This introduces a new concept in UK pension provision allowing NPA for service prior to an announced change (in SPA) to become payable from a later date. This concept is only being applied for benefits earned in the reformed plans. As discussed in 5.3 there was a commitment that pension promises that had been made would be honoured.

Employer cost cap

5.7 The commission recommended a fixed cap on taxpayers' contributions to plans as a proportion of pensionable pay. This is to help public service pensions remain affordable and sustainable, in the event of an unexpected, significant increase in costs within the new plans that has not been managed by plan design. The employer cost cap will operate following the introduction of new plans. The cost cap is distinct from the cost ceiling (see paragraphs 5.10 to 5.14). The cap will be an ongoing feature of the final plans, to provide 'backstop' protection against unforeseen risks. This protection takes the form of either reducing the level of future benefit accrual or increasing member contributions if costs increase. A significant proportion of potential future cost pressure will automatically be managed by limiting the proportion of members' expected life spent in retirement. Thus the mechanism to manage the SPA/NPA link is expected to mitigate the impact of improved longevity on the cost cap mechanism.

Governance

5.8 The commission recommended that every public service pension plan should have a properly constituted, trained and competent pension board, with member nominees, responsible for meeting good standards of governance. There should also be a pension policy group for each scheme at national level for considering major changes to scheme rules. Further details on governance are provided in chapter 8.

The reform process

5.9 The government's reform offer was set out in 'Public service pensions - Good pensions that last' published in November 2011[1]. This document announced the government's acceptance in full of the Hutton Commission's recommendations, set out its preferred plan design - the 'reference scheme' - and associated cost ceilings (i.e. the estimated cost of the reference scheme design for each pension plan) and announced the plans for taking forward plan specific discussions within these cost ceilings. It went further - to announce that those closest to retirement (within 10 years of their existing NPA at 1 April 2012) would be allowed to remain in their existing plans until they retired. In addition to this 'fully protected' group, some tapering of the effect of reforms were also allowed to avoid cliff edge effects. For most plans this is being implemented by staging the dates at which those just outside the 10 year age window will transfer to the reformed plans.

Cost ceiling process

5.10 As explained in 5.9, following the Hutton report and discussions with unions, HM Treasury set out its preferred design for the plans. However, to allow individual government departments to propose alternative designs which best suited their workforces whilst controlling overall taxpayer costs, HMT set out a 'cost ceiling' process. HMT's preferred plan design was referred to as the 'reference scheme' and any alternative design could not exceed the costs of the reference scheme.

5.11 The actuary to each plan was asked to propose, for HMT approval, appropriate data, methodology and assumptions for determining the cost of providing this reference scheme, or any variants to be considered, for the workforce in question. Once approved by HMT, each Scheme Actuary calculated the cost of providing the reference scheme which then formed the 'cost ceiling'[a] against which possible variations were tested. The cost ceilings agreed for the larger plans are set out below. The costs below all relate to provision of identical benefits, however, differences arise in the cost of the plans because of two factors:

> differences in actual membership profiles; and

> expected differences in future demographics.

	Cost of reference scheme - 'Gross cost ceiling'
NHSPS (E&W)	21.9%
TPS (E&W)	21.7%
PCSPS	22.5%
LGPS (E&W)	20.4%

5.12 For some of the variants proposed during the process it proved that the scope of the agreed data, methodology and assumptions was in fact not adequate for costing those variants and supplementary assumptions were considered and approved by HMT.

[a] Not to be confused with the 'cost ceiling' referred to in the Commission's report. The cost ceiling referred to here was a concept which applied only for the purposes of designing a scheme. In practice a cost ceiling as envisaged in the Commission's report will operate by means of an 'employer cost cap' (see 5.7).

5.13 Once the cost ceiling was set, departments worked with stakeholders to design the career average plan which best suited their workforce, with an expected cost no greater than this cost ceiling and subject to other certain constraints. The most significant variant explored was the exchange of average earnings linked active revaluation for price inflation linked revaluation and higher accrual.

5.14 There were a wide variety of designs considered within the process. Some variants relatively favour certain types of member over others. For example, a career average plan with a high accrual rate and low level of in service revaluation relatively favours short serving (particularly older) members compared with a cost equivalent plan offering a lower accrual rate but higher levels of in service revaluation - this latter model favouring longer serving members.

5.15 There was widespread union opposition to public service pension reform - even amongst traditionally moderate unions. For example, the union for professional and specialist civil servants held their first civil service-wide strike in more than 30 years. The unions ran campaigns with the slogan ‘Pay more, work longer and get less’, culminating with industrial action by public service workers on 30 November 2011. By late December 2011 the government were able to announce headline agreements reached with trades unions on the design of most of the reformed plans.

5.16 Formal agreements, containing more detail, were published in March 2012.

The reformed plans

5.17 As at December 2013, most of the reforms to the plans had been agreed with the unions. An outline of the reforms is given below.

- New plans to be introduced with effect from April 2015 for most groups of employees, with other dates of introduction for the other groups agreed by exception
- The new plans will continue to offer defined benefits, but will differ from existing plans - inter alia - in the following respects:
    a. NPA (the age at which pension can be taken in full) will be in line with SPA, with the exception of the uniformed services for whom the NPA will be 60. The SPA is currently due to increase to 68 over time
    b. All future service benefits will be calculated with reference to Career Average Revalued Earnings (CARE) rather than earnings close to retirement. Some public service employees are already in CARE plans, but the remainder are in final salary plans
    c. The accrual rate varies between the plans (between 1/60 and 1/43). Revaluation of CARE benefits will be by reference to:
        - either an earnings index, CPI or CPI plus a fixed margin for benefits accruing for active members
        - CPI for pensioners in payment and for deferred pensions in deferment.
    d. Lump sum benefits will only be available as an option to commute pension (on the basis of £12 lump sum for each £1 per annum of pension commuted)
    e. ancillary benefits (ill-health, death and survivors’ benefits) that match provision in plans that are currently open to new members (e.g. a lower tier ill health pensioner receives an unreduced CARE pension; a partner receives same proportion of member’s pension as now)

f. Benefits accrued in existing plans for service up to April 2015 will be unaffected, including continuing the link to final salary.

- Public service employees who are less than 10 years from their current NPA (60 or 65 years) on 1 April 2012 will remain in their current plan until they retire and draw their pension, with the rules of these plans in force prior to 2015 continuing to apply after 2015
- Other transitional arrangements apply for members who have 10 or more years but less than 13 to 14 years from their current pension age on 1 April 2012.

Sources:

1. Good Pensions That Last
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/205837/Public_Service_Pensions_-_good_pensions_that_last._Command_paper.pdf

6. FINANCIAL MANAGEMENT OF UNFUNDED PENSIONS

This chapter summarises:

- the financial implications of the reforms
- the principles adopted for the long term financial management of the unfunded arrangements for public service employees in the UK, incorporating:
  - the current cash flow, long term projections of cash flows, employer contribution rate and pension liabilities for benefits already accrued
  - and their use internationally and by the UK Government.

Financial implications of the new plans

6.1 The two changes made to public service pensions in advance of the reform process, i.e. increases to member contributions (of 3% of pay on average) and the switch to use the Consumer Price Index (CPI) rather than the Retail Price Index (RPI) for pension increases, both represented a significant reduction in the cost to the taxpayer.

6.2 The major saving from the reforms themselves comes from later retirement dates with the alignment of SPA and NPA. Although the reformed plans are considerably less expensive than those offered before any changes were made, the three factors already mentioned provided the majority of the savings. The rest of the reform package is more about fairness to members within the plans and sustainability in the long term. The government have offered a ‘25-year guarantee’ that the protected elements (CARE design, benefit accrual rate and member contribution rate) would not be changed outside of the processes agreed for the employer cost cap. The Public Service Pensions Act 2013 reflects this commitment by requiring a report to be laid before parliament before any changes are made to protected elements of the plan design.

Current cash flows

6.3 The most basic measure of the cost of a pension plan is the current expenditure on pensions. Although this basic measure is supplemented by the other, more forward looking, measures of cost discussed later in this chapter, it is helpful to start with these concrete figures, which do not depend on assumptions about the future.

6.4 The following table shows the current expenditure of the UK unfunded public service pension plans in 2011-12[1].

	£ billion ($ billions)	% GDP
Pension plan expenditure	30.9 (47.9)	2.0%
Income from employee contributions	5.6 (8.7)	0.4%

6.5 Pension plan expenditure includes:

> Recurring pension payments to former employees and their surviving dependants

> Lump sums, which may be payable on retirement or death

> Transfer payments, when a member requests that their pension is transferred to another pension plan.

6.6 The table also shows the income from employee contributions, which reduces the cash flow requirements of the plans on the UK government. The UK pension plans also receive employer contributions. However these are primarily transactions within the public sector (from a public service employer to a public service pension plan)[a], so they do not affect the cash flow requirements of the plans on the UK government. As discussed later in this chapter, the employer contributions are intended to ensure that the ultimate cost of pensions is taken account of within the budgets of individual employers, as an internal budgetary control.

6.7 The current expenditure on pensions, net of employee contributions, is a key fiscal aggregate included within the UK Public sector current budget, and is equal to the cash flow cost of unfunded public service pensions. This treatment of unfunded pension expense is derived from the international standards underlying National Accounts. The following sections discuss the treatment of pensions in National Accounts, and how this treatment is reflected in fiscal reporting in the UK.

Long term cash flow projections

6.8 The current cash flow requirements described above do not capture the long term fiscal impacts of pension plans. The UK government therefore also monitors projections of long term cash flows.

6.9 These long term cash flows include expenditure in respect of:

> existing pensioners, and former employees below pension age who are waiting to receive a pension
> existing employees, in respect of service to date
> existing employees, in respect of projected service in the future
> projected new employees in future.

6.10 The following table[2] shows the projected expenditure on public service pensions (these figures are for gross expenditure; i.e. they are not reduced for income from employee contributions):

	2011-12	2016-17	2021-22	2031-32	2041-42	2051-52	2061-62
Public service pension (% of GDP)	2.1	2.2	2.0	1.7	1.5	1.3	1.3

6.11 These projections include allowance for the recent reforms, which are described in chapters 4 and 5.

6.12 These long term cash flow projections depend on many assumptions about the future, the most important of which are as follows[3]:

> GDP growth 4.8%-5.1% pa
> Public sector earnings growth 4.75% pa
> Pension increases (i.e. CPI) 2.0% pa
> Public sector workforce growth 0.25% pa

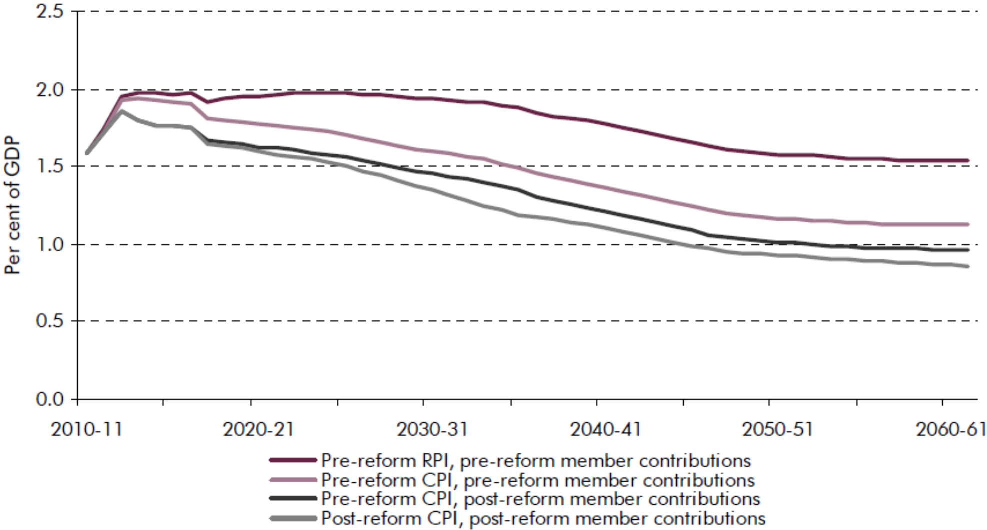
[a] There are some exceptions, where private sector employers have employees participating in a public sector scheme.

6.13 Demographic assumptions, including life expectancy, are consistent with those adopted for valuations, which are described in the next chapter.

6.14 Other countries also produce long term cash flow projections. For example, the EU produces an ageing report, which analyses the economic and budgetary impact of an ageing population over the long-term. The long term costs of public service pensions in the UK are included within the EU analysis.

6.15 The following (taken from OBR Fiscal Sustainability Report – July 2012) illustrates the impact of the various strands of reform on projected benefit outgo from the public service plans in aggregate.

Chart A.5: Effect of reforms on net expenditure



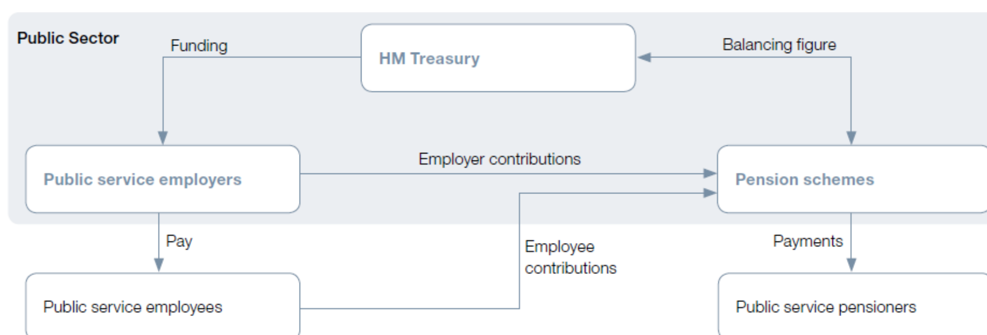
Source: OBR, GAD

Employer contributions

6.16 Although most public service pension plans in the UK are unfunded, it is important that today's decisions by government and public service employers about how many people to employ, as opposed to other forms of expenditure, take into account the full future cost of employing people. To this end, employers participating in these plans are charged a contribution reflecting the value of benefits being earned by current employees.

6.17 The chart below gives an illustration of how public service pensions contributions and payments are treated within public spending[4].

Payments and contributions in pay-as-you-go pension schemes



Source: National Audit Office

6.18 The key point to note is that the financing of employer contributions (for accruing pensions) comes from the Exchequer via the public service employers, and the balancing item (required for the plan to pay benefit outgo) comes directly from the Exchequer.

6.19 The rates of employer contributions are set in actuarial valuations. The reform process introduced a standard process for conducting actuarial valuations across all the main public service pension plans in the UK: this is described in chapter 7.

Treatment of pensions in National Accounts

6.20 National Accounts statistics are produced according to the international agreed System of National Accounts, published jointly by the United Nations, the Commission of the European Communities, the International Monetary Fund, the Organisation for Economic Co-operation and Development, and the World Bank.

6.21 The System of National Accounts 1993, which is used to prepare National Accounts currently, does not recognise any liability in respect of unfunded pension plans, although it does state that these liabilities may be noted as a memorandum item.

6.22 If no liability is recognised, it is consistent to measure expenditure as the current expenditure on pensions, and this treatment is also permitted by the System of National Accounts.

UK fiscal mandate

6.23 The treatment of unfunded pensions in National Accounts is important because it is carried forward into key statistics that are used to set fiscal policy.

6.24 In the June 2010 Budget the UK government set itself a medium-term fiscal mandate and a supplementary target[5], namely:

> to balance the cyclically-adjusted current budget (CACB) by the end of a rolling, five-year period; and

> to see public sector net debt (PSND) falling as a share of GDP in 2015-16.

6.25 The contribution of unfunded pensions to these UK fiscal statistics reflects the treatment in National Accounts, in particular:

> Current budget: The contribution of unfunded pension plan is current expenditure on pensions, net of employee contributions

- Net debt: The liability in respect of public service pension plans does not contribute to net debt.

Pension liabilities for benefits already accrued

6.26 In this section we consider the pension liabilities for benefits already accrued, which for the UK are available from the following sources:

- The supplementary table on pension plans, which all countries will be required to include in their National Accounts
- The Whole of Government Accounts, a UK consolidation of public sector accounts, produced under international commercial accounting standards.

6.27 These pension liabilities present as a single capitalised value the future expenditure in respect of:

- existing pensioners, and former employees below pension age who are waiting to receive a pension
- existing employees, in respect of service to date.

6.28 However they do not reflect future expenditure in respect of:

- existing employees, in respect of projected service in the future
- projected new employees in future.

6.29 In this sense, they could be seen as being a narrower measure than the long term cash flow projections discussed above.

6.30 The liabilities are also sensitive to the discount rate used to present future cash flows as a single capitalised figure.

The supplementary table on pension plans

6.31 As noted above, the System of National Accounts 1993 does not recognise any liability in respect of unfunded pension plans, although it does state that these liabilities may be noted as a memorandum item.

6.32 However, there are new requirements on reporting liabilities in respect of unfunded pension plans in the updated System of National Accounts 2008. Unfunded pension plan liabilities will still not be included within the core National Accounts, under the updated 2008 System, but will be reported in a supplementary table. The methodology for the supplementary table is further defined in the European System of Accounts 2010, an EU specific interpretation of the System of National Accounts 2008. All EU member states will be required to produce this new information to this standard from September 2014 onwards. The supplementary table presents, in a single table, the pension liabilities of all providers, including:

- liabilities of private sector providers
- Government liability in respect of funded pension plans
- Government liability in respect of unfunded pension plans for government employees (the focus of this paper)

> Government liability in respect of unfunded social security pension plans for the general population.

6.33 The UK Office for National Statistics published a supplementary table for 2010 in March 2012[6], the first EU country to do so. These statistics are still in the testing phase and are not fully developed, therefore they are described as experimental statistics, rather than national statistics. The liability in respect of the unfunded public service pension plans at end 2010 was estimated to be £850 billion, or 58% of GDP. For comparison:

> The liability in respect of the unfunded social security pensions at end 2010 was estimated to be £3,840 billion

> The UK Public Sector Net Debt, which excludes the unfunded liability in respect of both public service pension plans and social security, stood at £905 billion as at end March 2011.

6.34 The following table shows the movement in this liability over the year 2010. The notes express the various transactions in the National Accounts using accounting terminology, similar to that used under FRS17 and IAS 19.

Supplementary Table 2010	***£ billions***	***$ billions***	***Notes***
Opening balance sheet			
Pension entitlements	**915.1**	**1,418.4**	Plan liability
Transactions			
Social contributions Of which:	62.5	96.9	Current Service Cost + Interest on plan liability + Experience gains and losses
Employer actual social contributions	*17.3*	*26.8*	*Employer contributions*
Employer imputed social contributions	*-6.7*	*-10.4*	*Current Service Cost - Employer and Employee Contributions + Experience gains and losses*
Household actual social contributions	*6.2*	*9.6*	*Employee contributions (including for added years)*
Household social contribution supplements	*45.8*	*71.0*	*Interest on plan liability*
Pension benefits	28.3	43.9	Benefits payable
Changes in pension entitlements due to social contributions and pension benefits	**34.2**	**53.0**	Social contributions – Benefits payable
Transfers of pension entitlements between plans	-0.1	-0.2	Transfers in and Payments to and on account of leavers
Changes in pension entitlements due to pension plan reforms	-95.1	-147.4	Past Service Cost
Other economic flows			
Changes in entitlements due to revaluations	0	0	Change in actuarial assumptions (financial)
Changes in entitlements due to other changes in volume	-1.9	-2.9	Change in actuarial assumptions (demographic)
Closing balance sheet			
Pension entitlements	**852.1**	**1,320.8**	Plan liability

6.35 One item that is worth noting above is the reduction in the liability of £95 billion due to changes in pension entitlements due to pension plan reforms. This is a consequence of the UK government decision to change the inflation measure used to increase public service pensions, which is discussed in Chapter 4.

6.36 The supplementary table is produced using the following financial assumptions, which are required under the European System of Accounts 2010:

> Nominal discount rate 5.0% pa
> Pension increases 2.0% pa

6.37 It is intended that these financial assumptions will remain fixed, so that figures for different years can easily be compared.

Whole of Government Accounts

6.38 The largest unfunded public service pension plans produce annual accounts that report the pension liabilities reflecting international commercial accounting standards, in particular IAS 19: Employee Benefits. Some modifications are made to IAS 19 appropriate to the public sector context. The liabilities of some of the smaller plans are reported in the accounts of public sector employers in line with IAS 19.

6.39 The Whole of Government Accounts[7] is a consolidation of the accounts of public sector entities, and in particular it consolidates the unfunded pension plan liability. The liability at 31 March 2011 was £893 billion ($1,385 billion),

6.40 The following table shows the movement in this liability over the year to 31 March 2011 and the previous year.

	2010-11		2009-10	
	£ bn	[$ bn]	£ bn	[$ bn]
Liability as at 1 April	1,019.0	[1,579.5]	735.3	[1,139.7]
Current Service Costs (gross of employee contributions)	33.1	[51.3]	22.9	[35.5]
Past service costs, including indexation adjustments	(104.6)	[-162.1]	0.7	[1.1]
Interest on plan liabilities	44.6	[69.1]	45.0	[69.8]
Actuarial (gains) losses	(69.9)	[-108.3]	238.6	[369.8]
Benefits paid	(28.9)	[-44.8]	(26.9)	[-41.7]
Liability at 31 March			1,015.6	[1,574.2]
Restatement			3.4	[5.3]
Liability as at 31 March (restated)	893.3	[1,384.7]	1,019.0	[1,579.5]

Totals may differ owing to rounding errors.

6.41 Note that the effect of the UK government decision to change the inflation measure used to increase public service pensions is recognised as a reduction in the liability of £104.6 billion due to past service costs.

6.42 The Whole of Government Accounts are produced using financial assumptions set with regard to IAS 19: Employee benefits. The financial assumptions used by central government pension plans were as follows:

	31 Mar 2009	31 Mar 2010	31 Mar 2011
Discount rate, nominal	6.0	4.6	5.6
Inflation, RPI	2.75	2.75	3.4
Discount rate net of RPI	3.2	1.8	2.1
Inflation, CPI			2.65
Discount rate net of CPI			2.9

6.43 The significant increase in the liability between 31 Mar 2009 (£735.3bn [$1,139.7bn]) and 31 Mar 2010 (£1,019.0bn [$1,579.5bn]) was due to the fall in the discount rate net of pension increases from 3.2% to 1.8%. The decrease in the liability between 31 Mar 2010 (£1,019.0bn [$1,579.5bn]) and 31 Mar 2011 (£893.3bn [$1,384.6bn]) was due to the change of inflation measure used to increase pensions, which increased the discount rate net of pension increases from 1.8% to 2.9%.

Summary

6.44 The current cash cost of public service pensions is monitored and controlled through the UK's fiscal mandate. Long-term cash flow projections and the liabilities accrued to date are also reported and monitored. Employers are charged contributions so that employment decisions take into account the future cost of pensions, but these contributions are a transfer within the public sector and do not affect the cost of the pension plans to the taxpayer.

Sources:

1. Table 2.18 of Office for Budget Responsibility Economic and fiscal outlook supplementary fiscal tables - March 2013 http://budgetresponsibility.independent.gov.uk/pubs/Economic-and-fiscal-outlook-supplementary-fiscal-tables-March-2013.xls
2. Table 3.6 of OBR Fiscal Sustainability Report – July 2012 http://budgetresponsibility.independent.gov.uk/fiscal-sustainability-report-july-2012/
3. Table 3.5 and table 3.6 of OBR Fiscal Sustainability Report – July 2012 http://budgetresponsibility.independent.gov.uk/fiscal-sustainability-report-july-2012/
4. Figure 1 of NAO The cost of public service pensions http://www.nao.org.uk/publications/0910/public_service_pensions.aspx
5. OBR Economic and fiscal outlook March 2013 http://budgetresponsibility.independent.gov.uk/economic-and-fiscal-outlook-march-2013/
6. Pensions in the National Accounts, A fuller picture of the UK's funded and unfunded pension obligations. http://www.ons.gov.uk/ons/rel/pensions/pensions-in-the-national-accounts/uk-national-accounts-supplementary-table-on-pensions--2010-/art-mainarticle.html
7. Whole of Government Accounts http://www.hm-treasury.gov.uk/psr_government_accounts.htm
8. The 2012 Ageing Report: http://ec.europa.eu/economy_finance/publications/european_economy/2012/2012-ageing-report_en.htm

7. ACTUARIAL METHODS AND ASSUMPTIONS

This chapter describes:
- The actuarial valuation methods used
- How the economic and demographic assumptions are set. and
- The method used to set contributions (the SCAPE method - Superannuation Contributions Adjusted for Past Experience).

Background

7.1 Chapter 6 outlined the different measures of the cost of providing unfunded pensions. This chapter focuses on:

> the purpose of the valuation (to determine a management charge and implement a cost cap mechanism)

> the method (known as the SCAPE methodology) used to set a employer contribution rate (management charge) for an unfunded plan, and how to set the SCAPE discount rate

> the valuation method and economic and demographic assumption setting

> and how a cost cap mechanism is being implemented to ensure future costs are kept under control.

Purpose of the valuation

7.2 An unfunded valuation will be needed for two purposes:

> To determine a management charge by setting an employer contribution rate

> To set the employer cost cap and to compare subsequent valuation results to the employer cost cap.

7.3 The Minister responsible for the government department that sponsors the pension plan is required to appoint a Scheme Actuary to carry out a valuation of the new plan in accordance with Directions[1] issued by HMT. These Directions specify that with a few exceptions, the effective date of the first valuation of the plans in line with the new processes is 31 March 2012. Additionally, there should be 4 years between valuations.

7.4 As detailed in chapter 6 the government has committed to a ‘25-year guarantee’. The cost cap mechanism is designed to enable the government to keep to that commitment even if ‘member costs’ increase (e.g. increased life expectancy). Therefore, an output of the valuations is to test the cost of plan against the cap.

The method used to set contributions for an unfunded plan (the SCAPE methodology - Superannuation Contributions Adjusted for Past Experience)

7.5 As mentioned previously, the majority of public service pension plans are unfunded defined benefit pension plans. Therefore, as opposed to the private sector, there are no assets held to pay the plan benefits in the future; these cash flows are instead paid out of tax and other revenues. Therefore, due to its unfunded nature, it is appropriate to have a different basis for setting the discount rate from the private sector asset based discount rate approach.

7.6 Additionally, in the private sector surpluses and deficits will arise at future valuations where the return on the assets does not match the change in the liabilities between the valuations. The sponsoring employer of the plan will need to remove any deficit that has arisen through a recovery plan[0]. For the unfunded public service pension plans there are no assets to secure the liabilities and ultimately if the costs of the plans are higher than anticipated then the taxpayer will pay. A mechanism is needed to ensure that employers (and plan members through the cost cap mechanism) contribute more to the plan if costs of providing the pension benefits increase.

7.7 Historically, different public service pension plans had different mechanisms to calculate an employer contribution rate. In the late 1990s the UK government standardised the approach with a methodology called SCAPE, which was designed to calculate an employer contribution rate through the construction and tracking of a notional fund. This notional fund is called the SCAPE fund and the rate of return of these notional assets is set in line with the SCAPE discount rate. Additionally the discount rate that applies to plan liabilities is also in line with the SCAPE discount rate. The SCAPE fund between valuations will:

> increase with income received by the plan (e.g. contributions, transfers in)

> decrease with benefits paid by the plan (e.g. pension, lump sum, transfers out)

> increase in line with notional investment returns.

7.8 The notional investment returns reflect actual inflation since the pension benefits increase in line with inflation, if inflation is higher or lower than expected it has the same impact on the notional assets as it has on the plan liabilities.

7.9 By adopting this SCAPE methodology, future contribution rates can be adjusted to reflect any shortfall or overpayment of past service benefits. This arises due to the difference between actual and expected experience of demographic factors.

SCAPE discount rate

7.10 It is necessary to consider what discount rate is appropriate because it is important to the government that:

> the contributions to the plan reflect the value of benefits being earned today

> the value of benefits accrued is recognised and adjustment to the contribution rate can be made to reflect over/under payment of contributions in the past if benefits are expected to be more/less costly than in the past; and

> today’s decisions by government and public service employers about how many people to employ, as opposed to other forms of expenditure, take into account the full future cost of employing people.

7.11 In December 2010[3] HM Treasury published a consultation on how the SCAPE discount rate should be set. This followed the Hutton Commission suggestion that the then current discount rate was at the high end of what was appropriate and recommendation that it should be reviewed.

7.12 The consultation outlined four options for a new approach to setting the discount rate:

> A rate consistent with private sector and other funded plans
> A rate based on the yield on index-linked gilts
> A rate in line with expected GDP growth; and
> A Social Time Preference Rate (STPR) that makes allowances for the particular context of pension provision.

Discount rate consistent with private sector and other funded plans

7.13 The discount rate used for setting contributions in private sector plans is typically set with reference to the assets held and their expected returns and the strength of an employer's covenant (the ability and willingness of the employer to support the pension plan in the long term). Unfunded plans do not hold assets but one approach to setting the discount rate could be to consider the discount rates used by a private employer of the strongest covenant. However, the government has a unique risk-bearing profile compared to private sector employers. It has the ability to raise funds from future taxpayers; and choices about whether to make commitments on pensions require comparisons with other forms of future public, rather than private, spending.

Discount rate based on the yield on index-linked gilts

7.14 It can be argued that as pension contributions are being used to finance current government spending, therefore pension liabilities should be discounted at the market rate of government borrowing, as measured by the yield on index-linked gilts.

Discount rate in line with expected GDP growth

7.15 Setting the discount rate in line with GDP growth would reflect the fact that pensions from the unfunded public service pension plans will be paid for out of future tax revenues, as opposed to a fund of assets. Pensions could therefore be valued by discounting at the rate at which tax revenue is expected to grow. Over the long term, an appropriate guide to the growth rate of tax revenues is the long-term future rate of GDP growth.

A Social Time Preference Rate

7.16 At the time of the consultation, the SCAPE discount rate was set in line with the government's Social Time Preference Rate ('STPR'). This rate is recognition of how society values present, as opposed to future, consumption. This is used in the government's investment appraisals of different projects that involve spending money in the short term to deliver future welfare benefit. For example, building a railway network has costs upfront but will provide benefits for society in the future. The use of the STPR in the appraisal and evaluation of all policies, programmes and projects by government is set out in guidance[4]. The rationale for setting the discount rate in line with the government's STPR is that it represents the alternative public investment opportunities for the funds used to pay for public service pensions. However, it is questionable whether all of the components of the STPR are applicable to public service pensions and therefore an adjusted rate might be appropriate.

7.17 Following the consultation the government decided that a rate based on expected long-term GDP growth best meets their purposes and objectives. The rate that was decided was 3% + CPI. This is in line with the assumed long-term GDP growth in the Office for Budget Responsibility's (OBR's) projection for the period 2016-2050, set out in the November 2010 Economic and Fiscal Outlook[5].

The actuarial valuation method used

7.18 In the private sector there is a requirement for the trustees to choose an accrued benefits funding method for calculating the plan's technical provisions for the plan valuation[0]. There is no such requirement in the public sector and in previous valuations a range of actuarial methodologies have been adopted, for example, Projected Unit Method[6] or a mixture of Entry Age Method and Attained Age Method for sections that are open or closed respectively to new joiners[7].

7.19 The valuations are used to calculate the following figures:

- To determine the employer contribution rate
  a. Future service contribution rate from the implementation date for the next 4 years (from 1 April 2015 to 31 March 2019 for the first valuation)
  b. The liabilities and notional assets as at the effective date
     - Adjustment required to the contribution rate to remove any surplus/deficit in the plan
  c. Future service contribution rate from the effective date to the implementation date (from 1 April 2012 to 31 March 2015 for the first valuation)
     - Adjustment required to the contribution rate to remove any surplus/deficit in the plan as at the implementation date that would result from the contributions paid over the period from the effective date to the implementation date not being in line with the future service contribution rate for that period.
- To set the employer cost cap at the first valuation
- To compare subsequent valuation results to the employer cost cap (for this purpose a separate ‘cost cap cost of the scheme’ is calculated rather than the employer contribution rate).

7.20 As at the date of writing the method intended for all three purposes is the Projected Unit Method. This will produce a stable contribution rate if the membership profile of the plan remains constant over time.

How the economic and demographic assumptions are set

7.21 The plan manager (usually the Minister responsible for the government department that sponsors the pension plan) has the power to set the assumptions for the actuarial valuations and employer cost cap, upon taking actuarial advice and subject to HMT Directions.

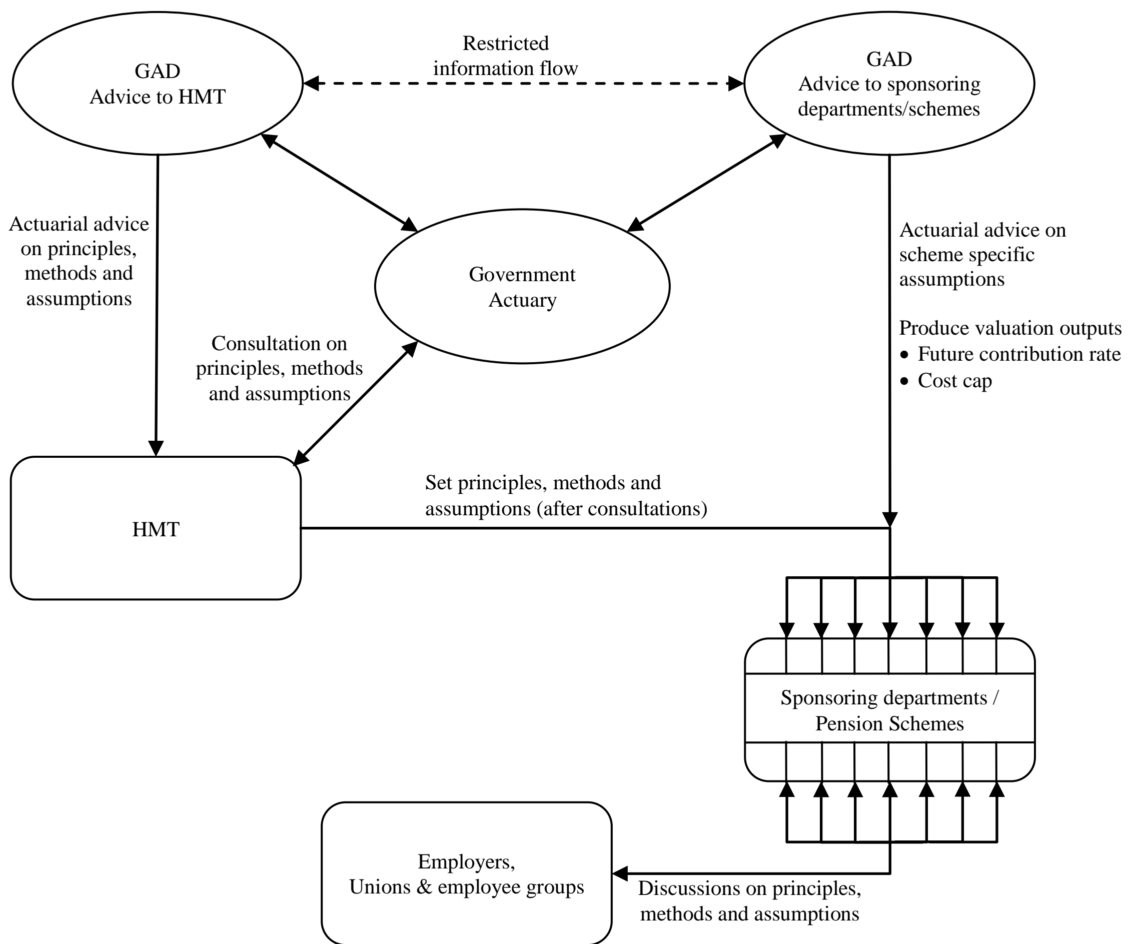
7.22 The Chief Secretary to the Treasury has certain powers under sections 11(2) and 12(3) of the Public Service Pensions Act 2013[8]. How these powers have been exercised is detailed in the Public Service Pensions Valuations and Employer Cost Cap Directions[1]. Within the Directions it will be specified either what economic or demographic assumption is to be adopted or the principles to be adopted when setting the assumption.

7.23 The economic assumptions are specified in the Directions and are therefore set by HMT. The setting of the discount rate is discussed above, and the other economic assumptions are also set in line with OBR projections. A similar approach is adopted for the projections for future improvements in life expectancy. However, these are set in line with principal population projections published by the Office for National

Statistics ('ONS')[9]. These assumptions will be the same across all of the unfunded public service pension plans.

7.24 The Directions state that the demographic assumptions should be best estimate. It is therefore the plan manager's responsibility to determine what assumption is best estimate. When determining best estimate, the plan manager will have regard to, amongst other things; what was set at the previous valuation and any analysis of experience. These assumptions are therefore plan specific.

7.25 In practice various stakeholders will be involved in the assumption setting process. Included within this process, there are various stages of consultations before the Directions are finalised. The consultation processes for the Directions are with regards to the whole of the Directions rather than just the process for setting assumptions. The graphic below details the interactions between the various stakeholders.



Cost cap mechanism

7.26 The actuarial methods and assumptions adopted for the cost cap mechanism are largely the same as for the employer contribution rate. The cost cap mechanism will take account of the impact of experience on both past and future service, either directly via experience effects or indirectly by the impact of any updating of assumptions. However, there are elements of experience that can impact on the employer contribution rate but are excluded from the cost cap mechanism. Therefore the cost cap figure is expected to be different from the employer contribution rate from the outset.

7.27 For example, the liabilities in relation to pensioner and deferred pensioner members of the pre-2015 plans are excluded from the cap. Further to this, the cap is to be set in reference to the 2012 valuations with no adjustments for past service effects that will impact on the employer contribution rate. Therefore any plan experience before the new plans are introduced also falls outside of the cost cap mechanism.

7.28 Additionally, from 2015 only costs that have been identified as 'member costs' are to be included in the cost cap mechanism ('member costs' is a term used in the guidance[10], and should not be confused with member contributions - a deduction from salary as a condition of plan membership). These include factors such as:

- a change in the average age of members
- a change in the average normal pension age of members (whether resulting from a change in state pension age or otherwise)
- a change in the expected member contribution yield; and
- plan experience or a change in assumptions relating to variety of demographic factors (e.g. mortality rates, ill-health retirements, etc).

7.29 The fact that each plan has its own cost cap means that differences in experience between public service plans could result in plans breaching the cost cap at different times (or some breaching the cap and others not at all).

7.30 In essence the cost cap is similar to the cap and share principle (as outlined in Chapter 4) introduced as part of the earlier cycle of public service reforms in 2007-8, in that it was designed to limit the contribution the taxpayer would make to public service plans. However, those reforms failed to provide certainty of outcomes for current members - with benefits and contributions exposed to adjustment on a four-yearly cycle. And it was widely recognised that the inclusion of legacy benefits (pensioners and former members) within the cost cap could very quickly result in unsustainable positions - with the current generation being expected to meet an unfair burden created by under provision for prior generations.

Sources:

1. Draft HMT Directions
http://www.lgpsboard.org/images/PDF/CMCAugust2013/HMTVal2
2. Scheme Funding Regulations (SI 2005/3377)
http://www.legislation.gov.uk/uksi/2005/3377/contents/made
3. Consultation and response on the discount rate used to set unfunded public service pension contributions
http://www.hm-treasury.gov.uk/d/consult_discount_rate_summary_responses.pdf
4. The Green Book: Appraisal and Evaluation in Central Government
http://www.hm-treasury.gov.uk/data_greenbook_index.htm
5. Office for Budget Responsibility's Economic and Fiscal Outlook
http://budgetresponsibility.independent.gov.uk/
6. PCSPS 2007 valuation
http://resources.civilservice.gov.uk/wp-content/uploads/2011/09/aslc_review_07_tcm6-1986.pdf
7. NHSPS 2007 valuation
http://www.nhsbsa.nhs.uk/Pensions/Documents/Pensions/NHSPS_funding_valuation_report_at_31_3_04_-_final_.pdf
8. Public Service Pensions Act 2013
http://www.legislation.gov.uk/ukpga/2013/25/contents/enacted
9. ONS principal population projections
http://www.ons.gov.uk/ons/taxonomy/index.html?nscl=Projected+Life+Expectancy
10. HMT guidance on the cost cap
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/205839/Establishing_an_employer_cost_cap_in_public_service_pension_schemes.pdf

8. GOVERNANCE

This chapter covers:
- The governance and infrastructure arrangements of the unfunded public service pension schemes
- The interaction among various stakeholders across government
- The arrangements for non-departmental public bodies, and
- The possible future for the governance of public service schemes.

Current governance arrangements

8.1 Public service plans in the UK are not subject to a legal 'plan rules' document in the same sense as private sector plans. Instead, the rules of the plan are set out in legislation, such that provision of benefits is a statutory duty required of prescribed parties.

8.2 Acts of Parliament provide ministers with the power to set up pension plans (e.g. the Superannuation Act 1972, Police Pensions Act 1976 and the Fire and Rescue Services Act 2004). In general, the requirements of the plan are described in secondary legislation, through Statutory Instruments[1]. These regulations might include detailed descriptions of the benefits to be provided and the circumstances in which they are paid, but also details such as membership eligibility and the requirement to carry out actuarial valuations. Some, but not all, plans have a link to primary legislation, meaning that aspects of the plan are defined in an Act of Parliament. Note that there is no single Act of Parliament setting out what is expected of a public service pension plan, although plans are subject to general pensions legislation which includes modifications for public service plans where appropriate.

8.3 As such, the governing Act and regulations define who has overall responsibility for plan policy and setting effective plan rules - powers which normally fall to the relevant Secretary of State, or Minister, for the sponsoring department. The Secretary of State is ultimately accountable to Parliament, and hence the electorate, for the decisions they make.

8.4 The Secretary of State can then delegate powers to others to assist them in running the plan. In practice, the Secretary of State will have very little, if any, involvement in the day to day administration of the plan, and is more likely to restrict their involvement to policy development and important current issues.

8.5 Administration arrangements vary between plans, with most unfunded plans being centrally administered. The pension plans for police officers and fire fighters are exceptions to this, being administered locally by individual local authorities, whilst plan-wide policy issues are handled centrally. There is usually a plan manager or plan management team embedded within the government department, responsible for the plan running satisfactorily.

8.6 Whilst some plans have a pension board and/or governance group, there is no standard approach to governance across all plans. Some arrangements provide robust governance with clear transparency of roles, member representation and a detailed approach to administering the plan and negotiating change. Other plans provide a less robust approach, with no identified governance group, often resulting in less transparency with respect to roles and responsibilities. In view of the Secretary of State's role, all such bodies are necessarily only advisory, but they can be highly influential.

8.7 Other stakeholders are also currently involved in plan governance arrangements, such as the oversight HM Treasury (HMT) provides, given that the UK government is the ultimate sponsor of the plan. Trade union bodies provide input and challenge to policy proposals, seeking to negotiate the best outcome for their members. Plan managers appoint professional advisors such as actuaries, auditors and lawyers, generally from within government, to assist them in their duties. Some departments may retain their own in-house expertise, for example on legal issues.

8.8 Note that in the existing regime, there is no explicit regulation of plans and plan behaviour to the extent that exists in the private sector: complaints can be made to individual departments or the Pensions Ombudsman, decisions made by public bodies can be subject to judicial review, and professional advisers are regulated by relevant bodies (for example GAD actuaries are subject to regulation from the Financial Reporting Council and Actuarial Profession). There is, however, currently no overarching role for a single body (such as the Pensions Regulator or equivalent) to ensure good outcomes for members and keep plans operating along best practice lines.

The working protocol

8.9 The unique nature of working within government means that the client-adviser relationships are not typical compared to what might be seen in the private sector. The main stakeholders who have responsibility for different aspects of the public service pension framework are all parts of government. 'Government', however, is a single legal entity so effectively each of these stakeholders is part of the same body.

8.10 In practice there are distinctions between different parts of government, and stakeholders act to mitigate the risk of perceived and actual conflicts of interest within the appointed roles they fulfil.

8.11 To illustrate this point, consider the roles GAD fulfils in respect of its public service pension clients. Whilst the construction of existing regulations may differ, the majority of plans' regulations now require a Scheme Actuary to be appointed[a]. The Scheme Actuary is then supported by a client team in producing actuarial analysis and advice which is primarily produced for, and provided to, the plan managers, to whom the Secretary of State has delegated powers to run the plan. Plan managers operate within the bounds of their remit, escalating policy issues as appropriate.

8.12 Scheme Actuaries may also advise plans' governance groups on request, and with the permission of the main client. Whilst the parallels are not exact, this arrangement could be viewed as broadly equivalent to a private sector Scheme Actuary advising both the employer and the trustees, a situation which, under the UK Actuarial Profession Standard P1[2], gives rise to an irreconcilable conflict of interests in all but exceptional cases. However, as noted, the comparison to the private sector is not exact, and the interests of governance groups are not directly aligned with trustees, nor are the sponsoring departments' plan managers' interests aligned with employers'.

8.13 GAD also has a lead actuary and client team advising HMT who, as the UK finance department of central government, have oversight across all plans.

8.14 Plan advisers, including those at GAD, have a duty of care to their clients, and also a duty of confidentiality. Circumstances can, and do, arise where the objectives of one client conflict with those of another.

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[a] Note that Scheme Actuary in this context is a term defined in scheme regulations and is not equivalent to an appointed Scheme Actuary in the sense used by the Institute & Faculty of Actuaries.

8.15 There is a need for consistency of treatment across the public service plans, and GAD's position as adviser to the main stakeholders provides a unique vantage point on a range of technical and professional issues. Where appropriate, information sharing between plans or, within GAD, across client teams, is increasingly prevalent and encouraged.

8.16 HMT is taking a more central role in determining consistency across plans in the future, for example in respect of the Directions to plans regarding valuation assumptions and methodologies. The legislation requires HMT to consult with the government Actuary before formally laying the Directions. In effect we come full circle: Scheme Actuaries advise plans which are overseen by HMT. HMT are themselves advised by actuaries and consult with the Government Actuary who, as head of the department, is accountable for the actions of all Scheme Actuaries within GAD.

8.17 With the introduction of new plans in 2015, and ever increasing levels of scrutiny of public service pensions and the work of those associated with them, there is a clear need for consistency across plans combined with justification for any discrepancies that persist. One area where it is hoped to achieve greater consistency is in the wording of regulations. Currently different wording has proliferated even where regulations are ostensibly seeking to achieve the same aim. The regulations currently governing public service plans have been written and added to over many years, with some plans governed by regulations originally drafted nearly 40 years ago.

8.18 An example can be found when you consider how factors (e.g. a factor to actuarially reduce a pension payable if a plan member retires early) are set in the public service plans. The regulations for some plans require the Scheme Actuary or Government Actuary to set the factors, whilst others require the Secretary of State to set the factors, having taken advice from the Scheme Actuary. At the time of writing it is not yet clear what new plan regulations will say or whether there will be consistency across all plans.

8.19 A final aspect to consider in the current working protocol is the legal implications of working in public service. As public bodies, GAD and its public service pension plan clients are required to operate under public law, the principles which govern the relationship between the state and its citizens. This contrasts to private or civil law which considers the rights and duties of individuals towards each other.

8.20 The study of public law is a wide-ranging subject, but some of the main ideas can be found by considering a distinction of public law principles into grounds of illegality, irrationality and procedural impropriety. Decisions may be found to be illegal if based on an error of law or an error of fact sufficiently material to render the decision illegal. Public bodies must not act outside of their jurisdiction or else risk illegality. Decisions may be found to be irrational if a public body is found to have acted for an improper purpose, contrary to substantive legitimate expectations or unreasonably, or if the public body has unlawfully delegated functions. Issues of procedural impropriety include failure to follow procedural rules or a legitimate expectation of procedure, not providing fair or even-handed treatment, or providing inadequate reasoning for the decision taken.

8.21 Rather than pursuing remedy for liability under civil law the decisions of public bodies can only be subject to judicial review, which considers the decision-making process against the principles of public law. Various remedies may be offered should the judicial review be pursued successfully, such as quashing the decision and requiring the decision to be remade. This is a different environment in which to operate compared with the environment applying to private sector pension plans in the UK. Critical to any public body's success is to be able to 'do the right thing', but also to be *seen* to do the right thing and to be able to demonstrate and justify the decisions taken.

Non-departmental public bodies

8.22 Outside of central government, wider government also includes Non-Departmental Public Bodies (NDPBs). NDPBs are not government departments, but are often said to be 'sponsored' by government departments. Operating independently of ministerial control day to day, NDPBs are ultimately accountable to a Minister who is in turn accountable to Parliament and the electorate.

8.23 In 2010, as part of the government's drive to reform the delivery of public services in the UK, the Minister for the Cabinet Office announced a reform programme across an identified list of over 900 public bodies. This reform programme[3] seeks to reduce the total number of public bodies by more than 250 and to reform to some degree around 500, with wide ranging implications for the pension arrangements of those concerned.

8.24 The pension arrangements for NDPBs vary considerably, with some participating in central government plans, predominantly the funded LGPS or the unfunded PCSPS. Others run their own plans, which may be funded. Where bodies are being abolished or merged, various pensions options are available and are generally being considered on a case by case basis.

8.25 Where a separate funded plan exists, one option is to wind-up the plan, most likely with an immediate funding call on government enabling the plan to buy out its benefits in full. An alternative is for the government to provide a Crown Guarantee, promising that benefits will be paid or bought out in full at a future date, which may enable the plan to continue to run as a going concern, albeit with a change of sponsor if the original sponsor is abolished. Trustees are likely to work in partnership with the government on investment strategy, in order for the government to successfully mitigate the risks it faces in providing Crown Guarantees.

8.26 In 2012 the Royal Mail implemented a solution whereby an Act of Parliament established the Royal Mail Statutory Pension Scheme, a new unfunded plan, taking on most of the accrued pension liabilities. Going forward, the Royal Mail Pension Plan, now free from historic deficits and recently privatised, will accrue benefits for active service and salary linkages on past service.

8.27 Other options on reform include merging plans, for example transferring all members into the PCSPS, or the government provision of up-front or ongoing cash support to reduce plan deficits in the short or medium term before wind-up or run-off. Where the public body participates in a multi-employer plan, a cessation payment or a charge required by employer debt regulations may fall due, requiring an immediate call for cash unless a satisfactory alternative sponsoring arrangement can be put in place.

8.28 Note that many of the sections in the Public Service Pensions Act relating to plan reform and governance arrangements also apply to the future pension arrangements of certain public bodies as listed in the Act[4].

Future governance

8.29 As introduced elsewhere in this paper, the Hutton Commission fundamentally reviewed public service pension provision. Lord Hutton's recommendations were not restricted to benefit design, also considering the need for 'A transparent and effective system'[5].

8.30 A key recommendation was that '*every public service pension scheme… should have a properly constituted, trained and competent Pensions Board, with member nominees, responsible for meeting good standards of governance, including effective and efficient administration.*' Hutton also suggested there should be a pension policy group for each plan at national level, to consider major changes to plan rules, formalising the plan governance groups that already exist for some plans.

8.31 The Public Service Pensions Act implements these recommendations with statutory roles for plan managers, pension boards and scheme advisory boards[6]. The impact this will have on plans will vary, as some plans already operate similar roles so implementation may largely involve a re-grouping and reorganisation of existing capabilities. Other plans will see a significant increase in stakeholder intervention through these new roles.

8.32 Lord Hutton also recommended that there be independent oversight to improve governance and the availability and transparency of information. Again, the Act seeks to legislate for this, with amendments to the Pensions Act 2004 extending the role of the Pensions Regulator (tPR) with powers such as those to issue codes of practice for public service plans, or to appoint a skilled person to assist such plans. Plan managers will also have duties to make certain reports to tPR.

8.33 The development of overriding primary legislation to establish a common UK legal framework for all post-reform public service plans was also a recommendation of the Hutton Commission. As noted above, there is also a desire to increase consistency in regulations where appropriate, and ensure discrepancies between plans exist for justifiable reasons and not purely as a result of divergent past practice.

8.34 However, not all aspects of public service pension governance will change after the new plans come into force in 2015. Detailed plan design elements will still be set out in plan regulations, albeit within the high level framework set out in primary legislation. Secretaries of State will still hold responsibility for the plan, and they will seek help and advice to fulfil their duties from the various stakeholders first discussed in this chapter. However, the intention is certainly to provide a more transparent system, and spread best practice as the norm across wider government.

Sources:

1. Statutory Instruments
   http://www.parliament.uk/business/bills-and-legislation/secondary-legislation/statutory-instruments/
2. UK Actuarial Profession Standard P1
   http://www.actuaries.org.uk/APS_P1_version_2
3. Public Bodies Reform
   https://www.gov.uk/government/publications/public-bodies-reform-reports
4. Clauses 30 to 32, and Schedule 10 of Public Service Pensions Act 2013
   http://www.legislation.gov.uk/ukpga/2013/25/contents/enacted
5. Chapter 6 of Final Hutton Report
   https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/207720/hutton_final_100311.pdf
6. Clauses 4 to 7 of Public Service Pensions Act 2013
   http://www.legislation.gov.uk/ukpga/2013/25/contents/enacted

9. CONCLUDING REMARKS

This chapter gives summaries covering:
- Observations about capturing savings
- Questions about pension design for the future
- Some practical challenges and how we overcame them
- Why we wrote this paper.

Observations about capturing savings

9.1 Protection of accrued rights means that savings from benefit reductions in an unfunded arrangement take many years to materialise. This is why it is so important for long-term planning to keep a continual watch on the trends (both demographic and economic) likely to influence benefit payments

9.2 Given that accrued rights have been protected the biggest downward pressure on net outgo over the short term has been to:

> alter the index for inflation-linking pensions in payment from the Retail Price Index to the Consumer Price Index

> increase the contributions made by members (by an average of 3% of pay, but varying percentage increases applied depending on salary).

Questions about pension design for the future

9.3 Affordability of a pension depends on - inter alia - the capacity to generate wealth. Specifically, that means:

> for publicly financed pensions - the capacity to collect tax revenues

> for work-based pensions in the private sector - the capacity to generate profits.

9.4 Any commitment to provide a pension is very long term, and financial pragmatism provides a convincing argument that, given the influencing demographic and economic factors can be subject to change over time, then there should be corresponding flexibility in the design of plans by way of response. An example of a mechanism for providing such a response is linking retirement age to remaining life expectancy.

9.5 As an adjunct to the above, the question is posed about whether other demographic and economic factors liable to impose a financial risk to members or the sponsor, are monitored (with a mitigation strategy in place for each). Factors commonly monitored are longevity, inflation, and demographic factors affecting members while in employment, and - for funded arrangements investment risk in all its guises (interest, equity, credit, counterparty, etc) covenant risk and discontinuance risk.

9.6 In addition to the linking the pension age in the reformed schemes to the State Pension Age, the UK government has introduced an employer cost cap to provide a ‘backstop’ protection against unforeseen risks, as described in chapter 5 and 7. The employer cost cap will manage risks associated with changes in member’s demographics, for example their life expectancy, or career paths. Changes in cost associated with pensioner and deferred members in the existing schemes and changes to financial assumptions (such as the discount rate) are excluded from this mechanism. Any changes in long term GDP growth and consequential change in the discount rate will therefore not affect the employer cost cap mechanism, although it would affect the cash flow cost when measured as a percentage of GDP.

9.7 In the formative years of work-based pension provision in the UK, early private sector pensions design replicated that available at the time in the public sector. Over the last 20 years there has been a marked divergence for well-established reasons. The UK public sector has been striving to contain its long-term costs and long-term risk. Are any of the techniques used capable of application in the private sector?

Some practical challenges and how we overcame them

9.8 Carrying out the actuarial valuation of over 20 main public service pension arrangements in the UK, with membership totalling nearly 13 million, is unprecedented. Given the potential for public scrutiny, GAD appointed an independent Quality Assurance (QA) Actuary from a private sector firm experienced in the valuation of large pension plans. The QA Actuary was required to:

- Carry out checks on a small limited sample of calculations (selected at their discretion)
- Provide assurance that:
    a. The methodology and assumptions used by GAD are in accordance with those specified by HM Treasury or are otherwise reasonable where they have not been specified by HMT Treasury
    b. GAD has taken reasonable steps to ensure, as far as possible, the data used in the valuations is adequate for this purpose, and any material, but uncorrected, data inadequacies – as identified during the validation of supplied data – have been drawn to the attention of relevant stakeholders
    c. GAD has carried out the calculations and supporting analysis appropriately and with due care.

9.9 In the past, actuarial valuations tended to have been carried out on an individual plan by plan basis. The GAD actuarial teams were therefore now required to work much more as a single large team on a single large project to a much greater extent than to which they had been accustomed. We adopted the slogan for our objectives of:

- Correct, Consistent, Efficient and Explainable.

9.10 We trust the aims underlying the slogan are self-explanatory, but it is worth noting that:

a. Consistent does not necessarily mean identical in every respect, since each plan has different nuances
b. As well as the generally accepted meaning of Explainable (capable of lucid description), we were also determined that all apparent inconsistencies were Explainable (in the sense of being justifiable).

9.11 Project Management was a large feature of the work, and was practical and proportionate without being over-dominant. Regular short business-like progress meetings were held with the valuation teams (target duration 15 minutes), and the GAD management were briefed formally at Board meetings. We referred regularly to a short Risk Register to monitor, and mitigate risks grouped under ‘Potential damage to GAD’s:

- reputation
- finances
- values.

9.12 We believe we have audit trails in place of how, and where necessary why, the work was conducted. The true test of how well we have done that will be in three to four years, when the whole exercise will have to be repeated, effective at 2016.

Why we wrote this paper

9.13 This paper was never intended to demonstrate great developments in leading edge actuarial techniques. But it has been intended to be practical and, we trust, a comprehensive collection of the work carried out in the UK, explaining in particular how pay-as-you-go operates in practice.

9.14 Some of the approaches used might seem counterintuitive at first sight to those new to the area, but we hope readers find the document a useful account of the analysis.

ABBREVIATIONS

CACB	Cyclically-Adjusted Current Budget
CARE	Career Average Revalued Earnings
CPI	Consumer Price Index
DB	Defined Benefit
DC	Defined Contribution
EU	European Union
GAD	Government Actuary's Department
GDP	Gross Domestic Product
HMT	Her Majesty's Treasury (HM Treasury)
IAS	International Accounting Standards
IPSPC	Independent Public Service Pensions Commission (Hutton Commission)
NDPB	Non-Departmental Public Bodies
NHS	National Health Service
NAO	National Audit Office
NPA	Normal Pension Age
OBR	Office for Budget Responsibility
ONS	Office for National Statistics
PCSPS	Principal Civil Service Pension Scheme
PSND	Public Sector Net Debt
QA	Quality Assurance
RPI	Retail Price Index
SCAPE	Superannuation Contributions Adjusted for Past Experience
SPA	State Pension Age
tPR	The Pensions Regulator

ANNEX A

List of public service pension plans covered:

Armed Forces Pension Scheme
Fire fighters' Pension Scheme (England)
Fire fighters' Pension Scheme (Wales)
Fire fighters' Pension Scheme (Scotland)
Fire Pension Scheme (Northern Ireland)
Judicial Pension Scheme
Local Government Pension Scheme (England & Wales)
Local Government Pension Scheme (Scotland)
Local Government Pension Scheme (Northern Ireland)
National Health Service Pension Scheme (England & Wales)
National Health Service Pension Scheme (Scotland)
National Health Service Pension Scheme (Northern Ireland)
Police Pension Scheme (England & Wales)
Police Pension Scheme (Scotland)
Police Pension Scheme (Northern Ireland)
Principal Civil Service Pension Scheme
Principal Civil Service Pension Scheme (Northern Ireland)
Teachers' Pension Scheme (England & Wales)
Teachers' Pension Scheme (Scotland)
Teachers' Pension Scheme (Northern Ireland)