National Audit Office

HM Treasury

The impact of the 2007-08 changes to public service pensions

Methodology

DECEMBER 2010

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1 The National Audit Office's report on *The impact of the 2007-08 changes to public service pensions*[1] examines how the Treasury directed and oversaw the 2007-08 changes to the public service pension schemes covering civil servants, NHS staff and teachers, and provides a full analysis of their projected financial impact.

2 To prepare our report, we:

- commissioned the Government Actuary's Department to carry out quantitative analysis and modelling in order to produce projections of annual costs between 2009-10 and 2059-60 under a range of scenarios – further details on this work are provided below;
- commissioned actuaries from KPMG to work with our Decision Analytical Modelling network to review the robustness of the Government Actuary's Department model and assumptions used to generate the Treasury's long-term projections on public service pension cashflows – further details on this work are set out below;
- commissioned actuaries from KPMG to provide further analysis of the projections from the Government Actuary's Department and to advise us on the interpretation and analysis of them in our own report;
- held semi-structured interviews with scheme managers, actuaries, employers and trade unions connected with the Principal Civil Service Pension Scheme, the NHS Pension Scheme and the Teachers' Pension Scheme – to understand options considered during scheme reviews and negotiations, why particular changes were made and the cost implications;
- reviewed and analysed key papers on negotiation meetings, consultation documents and surveys, actuarial analyses, valuations and resource accounts for the civil service, NHS and teachers' schemes – to understand options considered and changes made, along with financial, membership and behavioural trends for the schemes;
- reviewed Cabinet Office notes and minutes on the 2004-05 Public Services Forum meetings – to understand what was discussed and agreed at the Forum;
- held semi-structured interviews with Treasury staff and reviewed correspondence between the Treasury and schemes and their departments during 2005-06 – to understand the objectives and parameters of the 2007-08 changes and what the Treasury expected of the schemes and agreed with them; and

1 National Audit Office, *The impact of the 2007-08 changes to public service pensions*, HC 662, 2010-11.

- held semi-structured interviews with academic experts and key stakeholders (listed at the end of this note) – to understand the wider national and international context of the 2007-08 changes and views on their impact.

Projections commissioned from the Government Actuary's Department

3 We commissioned the Government Actuary's Department to produce annual cashflow projections of public service pay-as-you-go pensions for the period 2009-10 to 2059-60. These projections were based on the data, assumptions and methodology used to produce the cashflow projections provided to the Treasury for the December 2009 *Long-term public finance report*.[2] The Government Actuary's Department has explained these assumptions and methodologies in an April 2010 note, *Pay-As-You-Go Public Service Pension Schemes: December 2009 Cashflow Projections Methodology, Data and Assumptions*.[3]

4 The Government Actuary's Department produced projections of annual cashflows for pensions paid and employee contributions received between 2009-10 and 2059-60 for all the UK civil service, NHS and teachers' schemes combined. These were produced for a range of scenarios:

- with and without the 2007-08 changes to the civil service, NHS and teachers' schemes;
- with and without cost sharing and capping;
- for the low, principal and high life expectancy assumptions produced by the Office for National Statistics in 2008[4]; and
- for low (1.75 per cent a year), principal (2 per cent a year) and high (2.25 per cent a year) productivity growth assumptions.

5 We analysed the projections to identify:

- trends in pension payments and contributions;
- where cost pressures will lie in the future;
- the financial impact of the 2007-08 changes, analysed as a proportion of Gross Domestic Product and in net present value terms[5]; and
- the contribution of different elements of changes, specifically: increases in employee contributions on some of the schemes; a higher normal pension age for new entrants; cost sharing and capping; and other changes.

2 http://webarchive.nationalarchives.gov.uk/+/http://www.hm-treasury.gov.uk/prebud_pbr09_longtermfinances.htm.
3 http://www.gad.gov.uk/Documents/Occupational%20Pensions/December_2009_Cashflow_Projections_Methodology_data_and_assumptions.pdf.
4 In these projections, the probability of a pensioner dying in a given year is assumed to be 85 per cent of the probability used in the Office for National Statistics' 2008-based population projections to take account of the fact that members of occupational pension schemes experience lower mortality than the general population.
5 Using a rate of 3.5 per cent a year above the Retail Prices Index to discount for the time value of money.

6 The projections are subject to the following observations.

- They do not take account of the Government's announcement in the June 2010 Budget that the Consumer Prices Index will be used for the indexation of public service pensions from April 2011.
- The Government Actuary's Department originally prepared its projections for the Treasury's *Long-term public finance reports,* where expenditure is typically shown to the nearest 0.1 per cent of Gross Domestic Product. It rounded results to the nearest £0.1 billion to assist with the analysis for this report, although the margin of error in these projections is wider than this.
- The assumptions about working patterns are based on the most recent actuarial valuations for the schemes and so do not allow for possible future changes. In particular, there is no allowance for potential later working for increasingly flexible retirement, and members in the new schemes with a normal pension age of 65 are assumed to retire at 65.
- The projections include allowance for the application of cost sharing and capping as a result of increases in life expectancy, but not as a result of other effects, for example if earnings increases are different from those assumed or if the number of ill health retirements is greater than assumed.
- The level of savings as a result of cost sharing and capping are highly dependent on whether or not the cost cap is reached.

Review of the robustness of the model, and assumptions, to generate the Treasury's long-term projections on public service pension cashflows

7 Using internal expertise from the National Audit Office's Decision Analytical Modelling network, and actuarial input from KPMG, we conducted a review of the model used by the Government Actuary's Department to project public service pension cash flows for the Treasury's *Long-term public finance report* and for the projections we commissioned. We:

- focused on the checks and processes in place to produce the cashflow figures;
- developed a framework outlining different areas of the modelling process and identified examples of the types of checks we would have expected to be in place;
- went through the framework with an actuary at the Government Actuary's Department, who explained the checking processes and provided access to the supporting documentation through a series of meetings and telephone discussions; and
- reviewed examples of data files.

Interviews with academic experts and key stakeholders

8 We held semi-structured interviews with the following experts and stakeholders:

- the Audit Commission team who examined the Local Government Pension Scheme;
- Dr Nicholas Barr, Professor of Public Economics (European Institute), London School of Economics;
- Dr David Blake, Professor of Pension Economics and Director of the Pensions Institute, Cass Business School;
- the Department for Work and Pensions;
- the Independent Public Service Pension Commission (the Hutton Commission);
- the Institute for Fiscal Studies;
- the Institute for Public Policy Research;
- the Pensions Policy Institute;
- Policy Exchange; and
- the Public Sector Pensions Commission, sponsored by the Institute of Economic Affairs and the Institute of Directors.

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