

eNews from GAD

Actuarial analysis from the public sector

Issue 23, March 2016



Welcome to eNews – GAD's regular newsletter. Providing support to our public sector pension scheme clients is an important part of GAD's work. These projects don't come much larger than the 2016 round of valuations of these schemes. In this issue Alan Dorn explores the steps we are taking to innovate and adapt to ensure that this multiple client project is a success.

The 2016 Budget did not announce further reform to pension taxation, but changes already announced will create challenges for areas of the public sector workforce. Sue Vivian asks whether there are other examples of pension provision that suggest ways to manage these issues.

While analytical models are powerful tools to explore consequences of key decisions, misunderstanding or misinterpretation of model results can risk making poor choices and financial loss. An objective review of the model and process can mitigate these risks and avoid problems. Chris Bull describes some examples of recent work GAD has completed in this area for a wide range of different UK government clients.

I hope that you enjoy this issue. As always, previous issues of eNews are available on our website www.gov.uk/gad.

MARTIN CLARKE, GOVERNMENT ACTUARY



NEWS FROM GAD

Heads of Analysis Conference

This conference brought together over 100 analytical professionals in government - economists, scientists, statisticians, and some GAD actuaries. Martin Clarke, the Government Actuary, in closing the conference, summed up what he was taking from the event:

- the inspiration from presentations on the use of modern and imaginative approaches to add value or save money; and
- the key challenges – for all analysts including actuaries - to anticipate the agenda in order to be timely with analysis, and then to be clear and precise with our advice.

DEVELOPMENTS

State Pension Age review

The [Pensions Act 2014](#) requires the government to carry out periodic reviews of the State Pension Age, supported by two reports. The Government Actuary or Deputy Government Actuary will write one report. [John Cridland CBE](#) has been appointed to lead the review writing the second report. DWP has published [terms of reference](#) for this review, which must report to the Secretary of State by January 2017. The review should include robust, evidence-based analysis of the current State Pension Age timetable and its impacts, and recommendations on future State Pension Age arrangements.

Pension Transfers and Early Exit Charges

HMT has published the [government's response](#) to its consultation on pension transfers and early exit charges. The government intends to limit early exit charges for people seeking to access the pension freedoms by introducing legislation to place a new duty on the Financial Conduct Authority to cap early exit charges and by mirroring these requirements for trust-based schemes. In addition, a number of measures will be introduced to ensure transfers are processed more effectively.

GAD Staff Transfers Team

Our specialist team who work within government on staff transfers in the public sector have published an [information sheet](#) explaining more about who they are and how they can help. You can also find out more on their [dedicated section](#) of our website.

Retirement

Bill Rayner, GAD Head of Specialist Actuarial, retired shortly before Easter. Bill joined GAD in 2009 and, as part of the leadership team, has made a substantial contribution over his time at GAD to the development and success of the department. We thank Bill for all he has done in his time here and wish him all the best for his retirement.

Budget 2016

On 16 March the Chancellor of the Exchequer, George Osborne, presented his [2016 Budget](#), setting out the government's plans for the economy and public finances. GAD's Budget [Technical Bulletin](#) focuses on certain measures announced relating to savings, pensions and National Insurance.

Public sector exit payments

HM Treasury has published a [consultation](#) on reforms to public sector exit payments, seeking to reduce the costs of redundancy pay-outs and ensure greater consistency between workforces. Parliament is currently considering the [Enterprise Bill](#) which includes legislation to cap the total value of public sector exit payments made to an individual at £95,000.

Flood Re

Launching in April 2016, [Flood Re](#) is a re-insurance scheme established to promote the availability and affordability of flood insurance for households in areas at high risk of flooding. The scheme is owned and managed by the insurance industry but is accountable to Parliament. In advance of its launch, Flood Re has published its first [transition plan](#) setting out how the home insurance market will return to risk-reflective pricing by 2039.

SUPPORTING CLIENTS THROUGH MAJOR PROJECTS: REVIEWING THE COST OF PUBLIC SERVICE PENSIONS

GAD’s values include *partnering* with our clients and *agility* through technical innovation and flexible working. A major example of this is the current project to review the costs of the 20 main public service pension schemes. These pension schemes provide benefits to over 13 million members and pensioners.

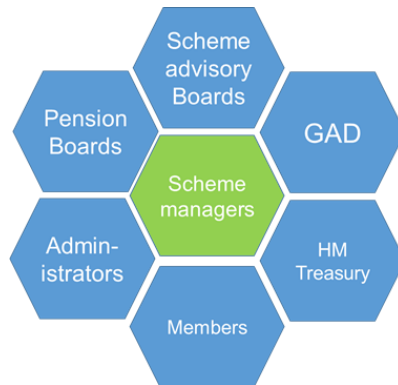


Alan Dorn

What is the project?

HM Treasury Directions require the costs of the schemes to be reviewed every four years. Planning for the next review – with an effective date of March 2016 – is well underway.

As part of the government’s reform of public service pensions, GAD assessed the costs of all the major public service schemes with an effective date of March 2012. This was the first time this had been done across all these schemes at the same time using a consistent approach.



Some of the main public sector workforces

For each scheme the two key outputs of the review are:

- what employers will need to pay to meet the cost of each scheme, and
- how the cost of the scheme compares to the baseline ‘cost cap’ measured in the initial assessment

If the cost has moved significantly from the baseline, then member benefits or contributions are required to change to bring the cost back into line with the cost cap.

Who are the stakeholders?

For this project, GAD’s primary clients are the sponsoring departments who act as scheme managers (Ministry of Defence, Department of Health etc). Each scheme has a number of relevant stakeholders, including pension scheme governance groups, members and unions. HM Treasury is responsible for the overall process. This is shown in the diagram in the next column.

What is the process?

These reviews of schemes’ costs are known as ‘actuarial valuations’. The outline process is as follows:

Process step	Description
Collate and validate member data	<p>The cost depends on the scheme’s membership, ie current and former employees.</p> <p>GAD works with scheme administrators to get the data needed and takes steps to ensure it is sufficiently accurate.</p>
Analyse events to inform views about the future	<p>GAD proposes assumptions about what might happen to the membership, for example how long members spend in work and retirement.</p> <p>The scheme manager then consults with other stakeholders and decides on the assumptions to be used.</p> <p>HM Treasury specifies future economic expectations such as the ‘discount rate’ used to place a current value on future payments.</p>
Calculate costs and interpret results	<p>GAD uses the data and assumptions to assess the cost of the scheme.</p> <p>GAD also analyses changes in the scheme cost since the last review, describing the key reasons, eg changing views about the future. This allows stakeholders to understand the key drivers for the change in cost.</p>
Communicate findings	<p>GAD produces reports on the cost of the scheme and reasons for any cost changes - together with the member data and assumptions used. These reports are made publicly available.</p>

SUPPORTING CLIENTS THROUGH MAJOR PROJECTS: REVIEWING THE COST OF PUBLIC SERVICE PENSIONS

What is GAD doing to ensure success?

GAD's key objectives for the actuarial valuations project are as follows:

- **Consistency:** Following the same approach where possible across all 20 schemes
- **Efficiency:** Achieving economies of scale from standardisation of processes
- **Quality:** No compromise on the professional quality and accuracy of our work
- **Delivery:** Helping all stakeholders meet the challenging project deadlines
- **User-friendly:** Ensuring GAD's communications are clear and easy to understand.

Some of the actions we are taking to ensure these objectives are met are set out below.

Promoting stakeholder interaction and shared understanding

Consistency	Delivery
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GAD organised a conference in London in September 2015 for representatives from schemes and HM Treasury. Speakers from schemes, HM Treasury and GAD shared their thoughts about lessons to be learned from the 2012 reviews and the requirements for a successful 2016 exercise.

There were also breakout discussion sessions for schemes to consider their own requirements in more detail. Further cross-scheme events are planned as the process continues.

GAD is also engaging in regular communication with schemes and HM Treasury throughout the process. This includes sharing of overall and scheme-specific plans at an early stage.

Learning from initial exercise

Consistency	Efficiency	Quality
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Following the 2012 reviews, GAD carried out a full internal assessment of what went well and what could have gone better. In addition, we engaged external actuarial consultants to give an independent view on the process.

Following these appraisals, GAD decided to set up an Actuarial Services Team (AST) to help streamline our work. The AST, based in GAD's London office, will bring standardised, efficient and consistent processes to the following areas of the process:

- Data cleaning and validation
- Analysing events in recent years to help form views for the future
- Calculation and checking of results
- Standard reporting templates.

Planning and flexibility

Delivery

GAD is maintaining and sharing an overall project plan to deliver all 20 actuarial valuations to the required timescales. We will also be producing 20 individual plans, one for each scheme, to meet their requirements in areas such as the provision of membership data and interaction with stakeholders.

GAD is also engaged in horizon scanning to help identify at an early stage issues which could affect the actuarial valuations project, and to warn scheme representatives and HM Treasury. For example:

- A review of State Pension Age will report in 2017. This will potentially affect the cost assessments, as pension ages for most schemes are linked to State Pension age.
- One of the key financial assumptions is the 'discount rate' set by HM Treasury. A reduction in the discount rate was announced at the 2016 Budget. This will affect the cost assessments. GAD is already liaising with scheme managers and HM Treasury to help stakeholders understand the potential impact.

Reporting and liaison

Quality	Delivery	User friendly
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In response to feedback received, GAD will be improving and standardising the reports we need to produce as part of the actuarial valuations project, to make them easier to read and understand for all stakeholders.

Similarly, we will be reviewing other communication materials used in the project. For example, we will be producing discussion documents setting out our analysis of recent events, to assist scheme managers and stakeholders in considering views on the future. We aim to make these documents as clear, concise and easy to follow as possible.

'GAD is ... engaging in horizon scanning to help identify issues at an early stage'

If you are interested in the issues raised here and would like to discuss further, please contact your usual GAD adviser or our [enquiries team](#).

UNIVERSITIES SUPERANNUATION SCHEME CHANGES BENEFITS FOR HIGH EARNERS: AN OPTION FOR PUBLIC SECTOR PENSION SCHEMES?

Although the much discussed reform of the taxation of pensions is not now on the agenda, defined benefit pension schemes are still having to grapple with the introduction of the tapered annual allowance (AA) and the lowering of the lifetime allowance (LTA) to £1m. Both measures affect only a small minority of the public sector workforce, but some areas will have material numbers which are affected. Additionally all workforces may find some relatively modestly paid members unexpectedly fall foul of the tapered AA measure due to promotions.

These implications may result in increased member opt outs frustrating the pension provision intentions or even raise recruitment and retention issues. However there are alternative approaches being used to manage these issues elsewhere in the pension industry.



Sue Vivian

How will individuals affected react?

The financial security offered by the public service defined benefit pension schemes is widely envied by those working elsewhere. But how will those brought within the scope of pensions tax charges feel about the relative value of their pension provision?

It may well be the case that even those subject to tax charges are relatively advantaged compared to other workforces, whilst undoubtedly disadvantaged relative to their predecessors. This is particularly the case when combined with the recent introduction of tiered contributions and wider income tax reforms.

However, lack of appreciation of this may well lead to irrational behaviours with members opting out of valuable public service schemes and in some cases leaving the service altogether with the service losing the valuable knowledge and expertise.

Has this problem been addressed elsewhere?

Leaving aside for a moment the 25 year guarantee embedded within the 2015 scheme reforms, is there a case that government should reconsider how public servants are pensioned? In the commercial world such reconsideration would commonly and periodically form part of a wider review of total reward.

‘Lack of appreciation of this may well lead to irrational behaviours...’

If there were a case for a review of how public servants are pensioned the reformed Universities Superannuation Scheme (USS) might be worth a look. USS has been pursuing a pension reform agenda for some years. The old final salary scheme was closed to new entrants in 2011. This was then replaced by a career average scheme for new joiners.

This year the old final salary scheme will be closed to all future accrual and career average benefits will be provided to all but subject to a pensionable pay cap of £55,000. Pay above this will be pensioned via a defined contribution (DC) arrangement with a standard 20% contribution on pay in excess of £55,000. For tax purposes the value of accrual in the career average scheme will be capped at around £14,000 pa.

The additional pension value ‘earned’ via the DC arrangement is readily identifiable by members who then have a reasonably simple means by which to assess the tax implications of their pension arrangement. So although no doubt the pension reforms will have been unpalatable for many, the ease of understanding in an increasingly complex tax environment is much improved and may allow for more rational decisions around pensions.

‘...a reasonably simple means by which to assess the tax implications of their pension...’

Could the public sector learn from the USS?

Whilst the defined contribution style of pension is not commonplace in the public sector the nature of the recently reformed career average schemes has moved these schemes at a conceptual level much closer to a form of defined contribution provision.

In effect the cost capping mechanism defines a level of contribution and the revaluation provisions define a fixed rate of return – generally inflation plus a defined margin. Affordability is managed by defining future accrual and a variable benefit commencement age. The latter feature whereby normal pension age is pegged to each member’s state pension age but with a member free to retire earlier or later with actuarial adjustment is the key. This feature was introduced by the 2013 Public Service Pensions Act.

Whilst the career average design does offer considerable certainty over income in retirement, the date from which that income is available is driven by affordability considerations. Clearly the periodic and relatively broad-brush nature of revisions to state pension age will not achieve an exact match to longevity expectations in the same way as the annuity market aspires but the broad intention is the same.

Conceptually it would seem relatively easy to cap overall benefit accrual in the public service pension schemes in a similar way to the USS model. This would enable overall benefit tax liability to be capped with clear visibility of the quantum of liability. Would doing so retain the relative attraction of the schemes to higher earners, at least for a key part of their pension provision?

If you are interested in the issues raised above and would like to discuss further, please contact your usual GAD advisor or our [enquiries team](#).

GAD QUALITY ASSURANCE — HOW WE CAN ASSIST WITH GETTING THE MODELLING RIGHT

Many organisations across the public sector use analytical models to help inform decision making. These models allow their users to combine potentially large sets of information, expert views about the future and logical representations of real world interactions to help chart a route to better outcomes. However without taking steps to assure the robustness and quality of the model (and processes used to verify and harness these elements), end users can't use the outputs with confidence and are at risk of receiving misleading results.

This is where GAD can add value by providing objective review and quality assurance (QA) of these models and the processes surrounding them. We can help to identify best practice, highlight areas of risk and suggest or even deliver appropriate solutions and mitigations.



Chris Bull

As actuaries, GAD staff are often involved in complicated modelling of financial costs and risks. GAD has therefore applied this expertise in financial, statistical and demographic principles to challenges across government. Below we examine some recent examples of QA work:

Independent review of long-term care modelling

The Department of Health had carried out modelling to help them understand the impact of capping the amount which people would have to contribute towards the cost of their social care. They asked GAD to carry out an independent review of their modelling to:

- Comment on the reasonableness of the results/approach;
- Provide challenge; and
- Make suggestions (for changes or further QA)

GAD reviewed the methodology and assumptions used in the modelling, identified possible risks and suggested areas for future development.

This helped the Department of Health better understand some of the uncertainties in the modelling and gave some assurance as to its robustness. This supported the Department in its decisions about future policy in this area.

Internal Audit DECC model

GAD worked in partnership with the Government Internal Audit Agency (GIAA) to provide assurance on the framework of governance, risk management and control relating to a model used by DECC as part of DECC's Carbon Capture and Storage Commercialisation project. These "Shadow Bid" models were produced by an external consultancy for DECC.

The GAD audit work included: high level checks on the models themselves; ensuring that suitable specifications were agreed; the models met the specifications; and sufficient QA was completed on the models. As part of the high level checks on the models, GAD produced a simplified model to verify the results for a range of scenarios.

As a consequence of GAD's input, DECC plan to improve their understanding of the workings of the models and how the outputs are produced.

Advanced Manufacturing Supply Chain Initiative assessment

The Department for Business, Innovation and Skills (BIS) ran a funding competition that was designed to improve the global competitiveness of the UK: the Advanced Manufacturing Supply Chain Initiative ('AMSCI'). The AMSCI programme, which is now closed, provided government funding and loans to support research and development, training and capital investment.

Companies that submitted applications underwent technical and value for money ('VfM') assessments. The model helped BIS make funding decisions by comparing the present value of government funding and the economic benefits it was expected to deliver.

BIS asked GAD to help with QA. We carried out a desktop evaluation, looking at several applications assessed by BIS's model, and met with key stakeholders involved at various stages of AMSCI. We were able to provide BIS with assurance that:

- the VfM model was appropriate and fit for the purpose of providing an economic evaluation; and
- the controls that sit around the model ensure that robust decisions were made.

We also recommended ways to further improve the models to support future decision making such as:

- a number of presentational changes to ensure that the uncertainty of the model output was clear to decision makers;
- other characteristics that could be used to assess applications;
- improvements to the process, the model, its controls and the guidance given to assessors.

Finally we provided some comments and suggestions on the manner in which key model factors and assumptions are set and documented. BIS found our recommendations helpful for both AMSCI and also other programmes requiring VfM assessment.

Further information

If you would like to discuss the [use of models in decision making](#) or any other aspect of QA at your department, please get in touch with your usual GAD contact.

GAD contacts

Email: enquiries@gad.gov.uk

Telephone: 020 7211 2601

For details of our management team and office address please visit:

<https://www.gov.uk/government/organisations/government-actuaries-department#people>

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